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Occupational Stress And Work-related Wellbeing Of Turkish National Police (tnp) Members

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OCCUPATIONAL STRESS AND WORK-RELATED WELLBEING OF TURKISH NATIONAL POLICE (TNP) MEMBERS

by

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ABSTRACT

Previous studies suggest that the organizational dynamics of police organizations and the nature of police work contribute to law enforcement stress, which in turn reduces job satisfaction and increases burnout. It is also well documented that undesirable organizational factors are more hazardous to the well-being of employees than are the stressors due to nature of police work. The present study examines whether, and to what degree, organizational and operational stresses in law enforcement are associated with job satisfaction, work-related burnout, and supervisor support, holding the effects of age, rank, education, gender, tenure, and shift type constant in the analysis.

A total of 538 Turkish National Police (TNP) employees from seven cities in Turkey, comprising 407 regular police officers and 131 ranked police officers, completed the study survey. The influence of organizational and operational stresses on the work-related well-being of TNP employees as measured by job satisfaction and work-related burnout was analyzed by structural equation modeling (SEM) under the theoretical framework of Kahn and Byosiere's (1992) causal theory.

The results of the study indicate that TNP employees' perceived organizational stress has a statistically significant positive effect on work-related burnout and a negative effect on job satisfaction. The more TNP employees experience their organization as stress inducing, the lower their job satisfaction levels and the higher their burnout levels. Perceived operational stress of TNP employees was found to be significantly associated with their work-related burnout, but

not with their job satisfaction. This study suggests that there is an indirect causal effect of both organizational and operational stresses on job satisfaction via supervisor support as mediator. Supervisor support fully mediates the relationship between operational stress and job satisfaction, and partially mediates the relationship between organizational stress and job satisfaction. After controlling the influence of several demographic variables, job satisfaction made a statistically significant contribution to predicting work-related burnout. This finding suggests that as job satisfaction of TNP employee increases, their work-related burnout decreases.

The findings of the study revealed that among the six demographic variables, only education level of TNP employees and rank make statistically significant contribution to their job satisfaction levels. As rank and education level of TNP employees increase, their job satisfaction also increases.

The predictor variables of organizational stress, operational stress, and supervisor support, along with education and rank collectively, explain 56 % of the total variation in job satisfaction. On the other hand, organizational stress, operational stress, job satisfaction, and supervisor support together account for 34 % of the total variance in work-related burnout.

Overall, the findings of this study illustrate a need for internal policy reform and managerial change in how the executives of TNP organize their agencies and policies, since organizational stressors are the most prevalent factors determining the work-related well-being of TNP employees.

I dedicated this study to the people of my country, Turkey, and the distinguished members of Turkish National Police.

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CHAPTER ONE: INTRODUCTION

1.1 Statement of the Problem

Policing is considered one of the most stressful occupations, exposing staff to occupational, organizational, and personal stressors (Alexander, 1999; Paton and Violanti, 1999; Anshel, 2000). Work-place stress has received a great deal of attention in social psychological research (Cooper, Dewe, and O'Driscoll, 2001). Significant research findings have documented that prolonged stress has negative effects on individual health (Mohren et al., 2003; Ursin and Eriksen, 2004) as well as on employees' attitudes towards the organization (Cropanzano, Rupp, and Byrne, 2003). Among many professional adverse effects of work stress are job dissatisfaction, poor public relations, reduced productivity, absenteeism, and high staff turnover; adverse personal effects are anxiety, depression, and burnout (Gershon et al., 2002). Studies have shown occupational stress to be one of the most costly occupational health issues in terms of the loss of organizational resources (Cooper and Cartwright, 1994; Cooper, Luikkonen and Cartwright, 1996). Common direct costs of occupational stress are reduced productivity, increased absenteeism, and employee turnover (Spielberger et al., 2000).

In the current environment including pockets of international terrorism, police officers perform their duty in the face of high demand and increasing at-risk situations. Gershon (2000) concur that working under continuously stressful conditions leads to the dissatisfaction and exhaustion of police officers. The stressful conditions that law enforcement officers are exposed can affect both their work-related and their physiological wellbeing. Ortega et al. (2007) point out that police officers work in a unique environment, subjecting themselves to potentially

traumatic events in conditions that impact their emotional and physical well-being. Therefore, additional stressors in the police environment such as the imbalance or unavailability of the resources needed to meet the necessity of addressing sources of stress can engender further stress for police officers.

Compounded stress factors have been found to lead to employee burnout. Martinussen et al. (2007) found burnout to be one of the most important outcomes of work-related stress because of its exponential impact on professional relationships. There is considerable evidence in the literature on police stress that burnout influences police officers' interactions with the public, and especially their violence towards citizens (Kop et al., 1999); and that burnout also influences work-family conflicts (Mikkelsen and Burke, 2004). In short, it is vital to pay attention to the impact of stress in a police environment across a widening range: on the well-being of an individual officer, on the police organization as a whole, and on the community where officers serve. Efforts to reduce officers' stress may be pivotal in community relations, since a marked increase has occurred in citizen complaints about incidents involving officers who had high levels of stress that affected their ability to handle conflicts properly. Recognizing the factors contributing to stress is highly relevant.

Violanti and Aron (1994) emphasized four notable stress factors in police organizations: 1) transactions within the criminal justice system, 2) the inherent nature of police work, 3) the public, and 4) the organization's characteristics. Other studies specify occupational stressors in two broad categories: organizational stressors, and stressors arising from the nature of police

work. Organizational stress has been found to affect police officers' level of stress more than operational stress does (Violanti and Aron, 1995; Morash et al., 2006).

In summary, the problem under consideration is "What specific aspects of policing are most stressful for Turkish National Police (TNP) members?" The question is proposed on the premise that identifying the sources of stress associated with policing provides essential information to guide appropriate policies and procedures that can reduce the impact of those stressors.

1.2 Purpose of the Study

The purpose of the study is to understand the direction of the relationships, if any, among occupational stress, job satisfaction, and burnout of law enforcement officers in the Turkish National Police (TNP). More specifically, the study investigates how the stressful events reported by law enforcement officers may affect their job satisfaction and burnout levels. Furthermore, the role of supervisor support as a situational mediator between occupational stress and two important outcome variables (job satisfaction and burnout) is evaluated.

1.3 Research Questions

This study seeks answers to the following research questions:

Q_1: Is there a relationship between Turkish National Police (TNP) members' stress (organizational stress and operational stress) and job satisfaction?

Q_2: Is there a relationship between Turkish National Police (TNP) members' stress (organizational stress and operational stress) and work-related burnout?

Q_3: Can supervisor support mediate the effect of Turkish National Police (TNP) members' stress (organizational and operational stress) on job dissatisfaction?

Q_4: Can supervisor support mediate the effect of Turkish National Police (TNP) members' stress (organizational and operational stress) on work-related burnout?

1.4 Significance of the Study

There is a strong positive relationship between individual performance and organizational performance: the higher the well-being of the officers, the higher the overall agency performance (Brough, 2007). It is thus important for law enforcement agencies to devote significant time to understanding the stress factors within the organization and how they affect the employees. Understanding and analyzing these stressors enables law enforcement agencies to develop and implement stress management strategies (Sheehan and Hasselt, 2003).

Law enforcement managers must be aware that the success of any law enforcement agency depends on the well-being of its members. Therefore, it is incumbent on the organization to assist employees with solutions for stressful work environments (Crank, 1998).

Identifying the relationship of organizational and operational stressors to the job satisfaction and burnout levels of officers provides an opportunity for police managers to shape organizational culture positively and adopt operational policies that improve organizational performance. By examining the effects of TNP members' stress on their job satisfaction and

burnout levels, we can offer TNP managers valuable information for launching and enhancing programs to manage stress successfully.

CHAPTER TWO: LITERATURE REVIEW

2.1 Occupational Stress

It has been accepted that people working in occupations where they are expected to deal with the problems of others, such as health care, teaching, and especially law enforcement, may suffer more stress than people do in other professions (Finn and Tomz, 1998).

To some extent personal stress is universal and cannot be eliminated completely (Ortega et al., 2007). It can be reduced, however, through training and education (Waters and Ussery, 2007). Employees' constant exposure to stress, if not handled effectively, can be destructive both for them in terms of the quality of their work and their physical and mental state and for the organization where they work (Maslach, 2003).

Because of its varied impacts at the individual, the organizational, and most importantly the community level, many researchers have examined stress in law enforcement (Skolnick, 1997). Many studies have shown how work-related stress can trigger such psychological and physical health problems as depression, anxiety, and chronic anger (Schaufeli and Enzmann 1998).

Law enforcement is one of the important professions in which employees deal with a range of individuals from different levels of society. Police officers interact with criminals; they have many relationships with other community members; and they must have mutual communication with other law enforcement professionals. Even though people working in law enforcement agencies are trained to manage interactions with different kinds of people, the

necessity of making decisions under time constraints for specific circumstances creates significant stress for law enforcement personnel (Miller, 2005). In their context, occupational stress is defined as characteristics of a profession that requires employees to interact intensively with others (Ellison, 2004). Such stress appears as people interact with each other, or deals with organizational policies and environmental circumstances (Stinchcomb, 2004; Miller, 2005).

Though the outcomes of stress differ according to the circumstances and the characteristics of the people involved, its consequences for people are consistently intense (Wicks, 2005; Stevens et al., 2006). Depression, anxiety, and dissatisfaction are the potential outcomes (O'Connor, 2006). Depression and cardiovascular disease are predominant among the health problems known to be correlated with the stress experienced by police officers (Collins and Gibbs, 2003). Police stress has consequences of behavioral problems: violence towards coworkers and family members, and excessive alcohol consumption or addiction (Kohan and O'Connor, 2002).

Several studies of law enforcement stress have found that work-related factors are the main source of stress for law enforcement personnel, stress that is directly related to their psychological, emotional, and physiological well-being (Harpold and Feemaster, 2002).

Gershon (1999), using U.S Department of Justice Data, classifies the adverse effects of law enforcement stress into four categories: psychological, behavioral, physical, and finally public health. From the psychological standpoint, law enforcement officers report loss of energy and sexual interest, and in physical terms they have increased risk of mortality from heart disease and cancer, chronic foot and back problems and sleeplessness as the adverse consequences of

exposure to work-related stress. Gershon also notes behavioral problems experienced by law enforcement officers: excessive alcohol consumption, and abuse of spouses and children.

According to Interactive theory, a perturbed state of mind and/or body leads to stress when environmental demands such as organizational conditions exceed personal resources (Cherniss, 1980). In the context of law enforcement, stress is described as a reaction that officers feel when dealing with a situation that demands action they consider beyond their capabilities to handle (Sarason and Sarason 1999).

Occupational stress is defined by Beehr and Newman (1978, p. 669-670) as "A situation wherein job-related factors interact with a worker to change (i.e., disrupt or enhance) his or her psychological or physiological condition such that the person (i.e., mind-body) is forced to deviate from normal functioning." Even though in recent years many law enforcement agencies have devoted significant time and effort to dealing with the stress of their employees, stress has nevertheless been described as an individual problem for each law enforcement officer to deal with, rather than organizational problem stemming from the characteristics of organizations (Stinchcomb, 2004).

The success of any law enforcement organization depends largely on a comprehensive understanding of the stressors within the organization and on the efforts to identify and mitigate their impacts (O'Toole, Vitello, and Palmer, 2006).The literature has identified two major source of stress: organizational stress and operational stress (Alexander et al., 1993; Violanti and Aron, 1995; Storch and Panzarella, 1996; Zhao, 2002). The first one refers to problematic organizational aspects of police work: lack of confidence in management, constant

organizational or policy change, and the lack of communication among organization members. The second category, occupational stressors, arises from the nature of police work: exposure to danger, physical threats, facing unpredictable incidents, and shift work (Stephens and Long, 2000).

The effects of stress vary with the types of stressor. Inherent police work stressors threaten health; while alienation inevitably results from exposure to organizational stressors (Dowler and Arai, 2008).

2.1.1 Organizational Stress

External factors that affect the job of policing have been examined by many researchers as the primary source of stress for law enforcement personnel (Jaramillo et al., 2005). Beginning in the 1990s, however, organizational culture (Finn and Tomz, 1998) and characteristics of the work environment of law enforcement (Ellison, 2004) have been studied as important sources of stress.

Organizational stress is broadly defined as certain characteristics of the organization and behaviors of its employees that may create stress for the employees. Bureaucratic processes, perceived lack of support from the community and leaders, and lack of promotion opportunities in the organization have been emphasized as organizational stressors (Stinchcomb, 2004; Burke and Mikkelsen, 2006). Toch et al. (2002) noted as features of organizational stress inconsistent discipline procedures and management style, and lack of administrative support. The policies and practices that law enforcement organizations require their employees to follow when doing their

job in the field or in the workplace are considered potential organizational stress factors (Ellison, 2004). In addition, the relationship between an organization and the media is identified as a common organizational stressor (Violanti and Aron, 1995).

In contrast to many other sectors where organizational stress factors receive attention necessary to mitigate their effects on employees, law enforcement agencies do not put enough effort into identifying organizational stressors and their potential effects on employees (Jaramillo et al., 2005). Montgomery (2008) states that the effects of organizational stress can be reduced by adapting organizational strategies accepted and used in the business sector. For law enforcement agencies, ignoring the potential effects of organizational stress may have more severe consequences than in other professions because the failure to deal with stress in law enforcement can lead to employees behaving inappropriately when they interact with the public (McCaslin et al., 2006).

In addition to the exposure to many stressful events on the street, organizational characteristics, especially, quasi-military structure can exacerbate the stress felt by law enforcement employees. The apparent inability to address sources of stress may result from the quasi-military bureaucratic structure of many law enforcement organizations, which can aggravate both the physical and the psychological stress of their personnel. The quasi-military structure of law enforcement agencies, in which officers operate under a strict command-and-control mechanism, emphasized an important source of stress for them (Black, 2003). Other specific stressors that an officer might confront include conflicting and dynamic policy status,

anxiety over the possibility of disciplinary action due to misinterpretation of policy, and poor supervision (Kroes, 1985).

Excessive workload and administrative duties, characteristics of the bureaucratic nature of law enforcement agencies, can create a stressful work environment (Violanti and Aron, 1995). Favoritism also has been examined by many scholars as an important organizational stress that affects the morale and wellbeing of employees (Klockars et al., 2006). Stinchcomb (2004) argues that if the workplace environment is not designed to enable personal accomplishment and autonomy for employees, they begin to be dissatisfied and lose productivity. Inequality in the workplace has been seen in many studies as an important factor diminishing the productivity and morale of employees (Leck, Saunders, and Charbonneau, 1996).

In police stress studies, a consistent finding has been that, organizational aspects of the work are more bothersome than its operational aspects (Kroes et al., 1974; Band and Manuelle, 1987; Crank and Caldero, 1991; Violanti and Aron, 1995; Zhao, 2002; Toch et al., 2002; Kohan and Mazmanian, 2003; Miller, 2005). Researchers have concluded that organizational stressors have more effect than operational stressors because of the perceived lack of ability to take corrective action (Alexander, et al., 1991; Davey et al., 2001).

2.1.2 Operational Stress

The normal day-to-day incidents confronting police officers create a stressful environment for them to deal with. Their reactions to these incidents often have the potential for negative emotional, physical, and psychological effects unless well managed (Chapin et al.,

2008). Operational stress is defined as arising from the inherent aspects of police work. Operational stressors are faced daily by law enforcement officers as part of the job. Exposure to traumatic events; murder, assaults, shootings (Violanti and Paton, 1999); dealing with crime victims and perpetrators, and also the criminal justice system; and police work's requirement of shift work are cited as operational stressors inherent in policing (Violanti and Paton, 1999; Ellison, 2004; Burke and Mikkelsen, 2006).

Operational stressors, or inherent stressors, in police life also include boredom, the continual exposure to citizens and their complaints, the use of force, and the sense of working under the strong possibility of violence, dangerous events, and death. All these clearly are psychologically and physically harmful to wellbeing (Dowler and Arai, 2008). Violent and unpredictable incidents (He et al., 2002) and frequent physical contacts with suspects (Dowler, 2005) are also strong factors in stress and burnout.

Chapin et al. (2008) emphasize the importance of recognizing the consequences of exposure to traumatic events on the wellbeing of officers.

> Common reactions immediately after traumatic exposure include loss of sleep, emotional distancing from friends and family, hyper vigilance, and numbing. In most officers, these reactions are transient and resolve with support and conversation. When the reaction is severe enough to impair occupational or social functioning, the reaction is called "acute stress disorder." If the reaction does not resolve within a matter of months, the officer may be experiencing posttraumatic stress symptoms, posttraumatic stress disorder (PTSD), or may be affected physically by the amount of traumatic exposures he or she has experienced" (p.339).

Recognizing the kinds of operational stress that police officers are experiencing and identifying the actions by supervisors needed to support their subordinates are important steps to

mitigate the long-term effects of operational stress, which include not only early retirement, but substance use and absenteeism (Loo, 2003).

In addition to inherent police stressors such as role conflict, exposure to critical and potentially dangerous incidents, and working conditions that range from excessive overload and excitement to boring routine, now dealing with the criminal justice system and courts and the media attention on law enforcement have gained importance as source of stress for law enforcement officers (Finn and Tomz, 1997).

There is a tendency by media to focus on the problematic events that involve law enforcement officers, even though such events account for only a small fraction of the activities of law enforcement. Such lopsided coverage creates the perception in the public that police are all the same, misusing their power over people. That feeling of being scrutinized all the time creates stress for law enforcement officers (Wright 1999).

Courts are important elements in the professional lives of police. Dealing with the required court procedures creates stress. Lawsuits filed against officers for the work they have done, and the many restrictions on law enforcement's investigative power are two potential sources of stress mentioned in the context of court-based stress (Asen and Colon 1995).

2.2 Job Satisfaction

Job satisfaction in human service occupations such as law enforcement has both extrinsic and intrinsic aspects. The extrinsic aspects of job satisfaction are considered to be the salary and promotion provided by the organization. The intrinsic aspects are work with citizens and

colleagues, educational opportunities, organizational support, personal needs of recognition and accomplishment, and social support (Koeske et al., 1994; Davis, 1996).

One of the most comprehensive definitions of job satisfaction is made by Spector (1997), who describes job satisfaction as having nine aspects: pay, promotion, supervision, benefits provided, contingent rewards as a means of recognition and appreciation, operating procedures and policies, dealing with coworkers, nature of the work, and communication within the organization (Spector, 1997). Of those nine indicators, job satisfaction has been found to be strongly associated with a number of organizational and individual outcomes (Judge et al., 2001).

Preston (1996) describes the negative behavioral symptoms of people who suffer workplace stress: work inefficiency; dissatisfaction; negative perceptions and behaviors toward coworkers; toward the organization, where they work, and toward the profession in general; high absenteeism and turnover; loss of interest in the job.

The literature on law enforcement stress literature has shown that exposure to chronic stressors has many adverse affects on the professional and personal life of law enforcement officers. Decline in job satisfaction, increased family problems, substance and alcohol addiction and reduced performance are among the notable consequences of occupational stress (Ivanhoff, 1994; Violanti, 1997). In addition, Violanti and Aron (1994) found a strong and positive relationship between high level of job satisfaction and the psychological well-being of police officers. Job satisfaction is considered as one of the strongest predictors of a valued organizational outcome, organizational commitment (Jaramillo et al., 2005). Ultimately,

increased job satisfaction, by improving the mental health status of officers, can improve subsequent organizational performance.

Carlan (2007) states that one of the main reasons for work-related dissatisfaction that is mentioned by law enforcement officers is stress directly related to the organizational characteristics of workplace. In quasi-military organizational structure where top managers dominate the managerial relations and do not support to subordinates, their job dissatisfaction is an inevitable result (Pursley, 1974).

Employees, who are entrusted with less routine tasks, have more autonomy and control over their jobs, and have more interactions with their coworkers show high levels of job satisfaction (Price and Mueller, 1986). Many scholars of police work and practitioners in the field have concluded that the bureaucratic nature of law enforcement organization in which employees have limited flexibility and must follow rules and procedures under a rigid command and control mechanism adversely affects the psychological wellbeing of employees (Violanti and Aron, 1994). Similarly, Stinchcomb (2004) emphasizes that the bureaucratic structure of an organization can stunt creativity, autonomy, and satisfaction.

2.3 Burnout

It is commonly recognized that prolonged stress harms job-related individuals' health, and that one possible outcome of work stress is burnout (Martinussen et al., 2007). Burnout is defined as a psychological syndrome in response to work-related stressors (Maslach, Schaufeli, and Leiter, 2001).

One of the most comprehensive definitions of burnout is that of Schaufeli and Enzmann. They define burnout as "A persistent, negative, work-related state of mind in 'normal' individuals that is primarily characterized by exhaustion, which is accompanied by distress, a sense of reduced effectiveness, decreased motivation, and the development of dysfunctional attitudes and behaviors at work" (1998, p. 36). That state of exhaustion is considered an extreme reaction to stress. Its consequence is a person's inability to accomplish work-related goals or implement the available solutions for work-related problems, due to the lack of energy and attention. While ostensibly functional, such employees are just doing the routines required, but are not actually engaged in their work in terms of improving its quality. They are less likely to be interested in making contributions to the organizations. Therefore, early diagnosis of possible burnout is important in order to retain such employees, since once it is a problem, it may require months or years for the employees to recover (Maslach, 2003).

Although burnout had been studied largely in the fields of healthcare and teaching, recent studies have included other professions (Martinussen et al., 2007). For instance, Kop et al. (1999) identified policing as a prime example of the problem. Burnout has been linked to police officers' health problems, especially to subjective health complaints, use of medication, and suicidal thoughts (Martinussen et al., 2007). Burnout is an important psychological negative response to continuous stress (Cherniss, 1980).

Even though the consistent findings in many research conducted over the past three decades (Copes, 2005; Ellison, 2004) have identified organizational stress factors as a common cause of stress for law enforcement employees, many studies that investigate stress and stress

management strategies in law enforcement organizations nevertheless focus on the factors at the individual level. Maslach, Schaufeli and Leiter (2001) point out the ironic situation that individual-based solutions are sought as interventions for burnout despite the fact that research has established that organizational factors are more bothersome.

The workplace conditions for law enforcement officers are considered oppressive, triggering feelings of cynicism and leading to burnout and decline in their overall performance (Zhao et al., 1999). Weber (1971) identified organizational characteristics that are linked directly to performance as well as wellbeing. Organizational incapacity, i.e. the number of staff less than it should be, and inequitable treatments of officers are factors that foster the perception of an erratic agency.

Sauter and Murphy (1995) recognized that workers in a highly stressful occupation are at greater risk for poor physical and psychological health. Stearns and Moore (1993) emphasized the strong associations between occupational stress and employee burnout, with occupational stress a strong predictor of higher levels of burnout. More current research by Schaufeli and Bakker (2004) has concluded that organizational, job, and personal characteristics are the possible factors, influencing burnout, and Halbesleben and Buckley (2004) emphasized organizational factors as important predictors of burnout. In terms of the effects of burnout on valued organizational outcomes, Pines and Keinan (2005) reported a correlation between burnout and such employee attitudes towards the police organization as job dissatisfaction and intent to leave.

2.4 Supervisor Support

Social support is defined as an informal social network of interpersonal transactions providing practical assistance and information along with emotional concern. Two important sources of social support are supervisors and colleagues (Etzion, 1984).

Social support is strongly associated with individual and organizational outcomes in the context of occupational stress (Beehr and McGrath, 1992). A direct negative association is found between social supports and such threats to valued organizational outcomes as absenteeism, turnover, and job dissatisfaction (Perrewe and Carlson, 2002). Support from the work environment has been found to be an important factor that might reduce stress (Etzion, 1984). Social support has been found to be both directly and indirectly related to increased well-being (Cohen and Wills, 1985). Workplace support improves employee wellbeing by reducing work-related adverse outcomes such as job dissatisfaction and worsened mental health (Moyle, 1998).

It is an inevitable fact that all working people suffer some sort of stress related to their work, whether it might be organizational or occupational. The degree to which people respond to stressors within the organization differs, however, and personality types and the types of support are two important factors that explain those differences (O'Connor, 2006). People in a highly resilient work climate manage stress better than do those in a less resilient work climate (Shelton, 2007). People who are not supported by coworkers and family members and lack necessary coping mechanisms are much more vulnerable to stress (Thompson et al., 2005).

Supervisors in charge of enforcing the practices and rules of the organization with subordinates are seen as important figures in the organization, since they have some flexibility in reflecting policies and practices to personnel (Ellison, 2004). Employees in the same law enforcement agencies but different departments can perceive the same rules and procedures differently because of the management styles of their supervisors. Schwabe et al. (2001) concluded that creating a law enforcement workplace where employees can interact with each other in a more cohesive way is directly related to their stress levels, meaning that in such environment employees experience less stress regardless of how many criminal activities they must handle.

Leadership in policing is considered an important success factor, since effective policing leaders give employees the sense that they can help them manage unpredictable events (Engel and Worden, 2003). In professions where employees must deal with other peoples' problems under time constraints, successful leaders mitigate the effects of work stress (Wicks, 2005), but ineffective leadership style can be an additional source of stress by failing to support employees (Engel and Worden, 2003).

Characteristics of supervisor support are showing tolerance for employees who have difficulties with tasks, giving credit for jobs well done, and providing incentives for employees to perform better. Even listening to employees' complaints about workplace stress is an important step for supervisors to mitigate employees' stress, since even though that does not change anything; it makes them feel better (Wicks, 2005).

The quality of workplace social support as perceived by employees is strongly related to burnout, (Brown and O'Brien, 1998) and to job satisfaction (Eisenberger et al., 1997). In police work, high levels of peer support and trust are a strong mediator buffering stress and burnout because officers feel that the only people who can understand the stresses of police work may be their coworkers. As shown in many studies, officers who perceive strong levels of peer support report low levels of stress (Morash et al., 2006).

2.5 Previous Studies of Stress in Law Enforcement

As noted in previous sections, the literature on occupational stress in law enforcement has shown that the long-term impact of acute and chronic stressors leads to physical and psychological adverse outcomes that include extended effects on personal and professional life. Job dissatisfaction, family problems, substance use, and reduced performance are the most notable consequences of occupational stress in law enforcement (Alexander and Walker, 1996; Violanti, 1997).

According to several stress studies in which law enforcement officers were asked to identify the work place stressors, they cited excessive workloads, excessive paperwork, red tape, and the necessity to complete paperwork under time constraints (Coman and Evans, 1991; Brown and Campbell, 1994; Violanti and Aron, 1995). The studies of American police officers (Storch and Panzarella, 1996) and of deputy marshals (Newman and Ruckeer-Reed, 2004, cited in Martinuessen et al., 2007), organizational factors such as bad management or work conditions were mentioned more frequently than the possibility of exposure to violence. A study of Scottish

police officers by Biggam et al. (1997) identified staff shortage and inadequate resources as among the highest organizational stress factors.

Among the inherent stressors in policing, dealing with the securing crime scene of a suicide or homicide victim, going to a house where domestic violence occurs, and traffic stops for search and seizure are specified as the events that can create high stress (Chapin et al., 2008). Exposure to traumatic events while on duty, being forced to work overtime, and dealing with routine have been listed in many research findings as significant sources of stress (Liberman et all.,2002; Toch et al,, 2002; Brough, 2004).

In several research surveys officers recognized burnout and stress as prevalent outcomes of persistent exposure to criminal elements and the inherent danger of police work (Lazarus, 1981). Two major stressors that exemplify the inherent danger of the occupation were named by full time police officers working in the state of New York: They were being placed in the position of taking a life in the line of duty, and the experience of losing a fellow officer (Violanti and Aron, 1995). Violent and unpredictable incidents are important sources of stress and burnout for police officers (He et al., 2002). Witnessing a fellow death in the line of duty, killing someone, the threat of physical attack, dealing with a child who attempts assault and high-speed chases are reported by many police officers as the most important inherent stressors in policing (Violanti and Aron, 1994, cited in Chapin et al., 2008).

In their study of which situations are perceived as the most stressful for law enforcement officers, Evans and Coman (1993) found that in the survey responses of 271 police officers, organizational stressors were cited as the most frequently observed sources of stress; witnessing

the death of colleague in the line of duty was cited as the event that produces the highest stress. Another study by Violanti and Aron (1993, cited in Murtagh, 2010) revealed that organizational stressors are six times more stressful than inherent stress factors.

In a study by Finn and Tomz (1997) in the Michigan State Police Department, officers reported that the organization represented the most significant source of stress. The researchers suggested changing the structure of the organization so that managers and officers could work more closely together to reduce stress. Hart et al. (1993) found that chronic exposure to stresful workplace experiences is more harmful than periodic traumatic events to the wellbeing of law enforcement officers. In their studies of law enforcement stress, both Bailey and Bhagat (1987) and Crank and Caldero (1991) found that organizational features of the work environment were cited as more stressful than the operational nature of the work.

Buker and Wiecko (2007) conducted a study of 812 members of the Turkish National Police (TNP) across multiple provinces to evaluate the effects of stressors. They found that the more prevalent factors that cause stress for TNP members are organizational and remain finding consistent with studies in the United States. Final comments by Buker and Wiecko suggest that reducing stress can be accomplished through the social structure already in place in the police force: "We found the nature of police work per se is not a significant source of stress. What makes policing a stressful job is better understood within the macro and micro level implications and relations within the department" (p. 305).

Because a supervisor as an agent of the organization with has discretion and responsibility for managing and assessing subordinates' performance, the supervisor's attitudes

towards subordinates are indicators of organizational support (Eisenberger et al., 1986). Viswesvaran, Sanchez and Fisher (1999) conducted a Meta analysis of the role of social support in work stress. They concluded that social support has three possible effects on work stress and strain relationship: 1) to reduce strain, 2) to mitigate perceived stressors, and 3) to moderate the effect of social support in the stress and strain relationship. They emphasized the mediation of social support even though they claim that the study's evidence for its mediational effect on work stress was weak. Another study found supervisor support to be more important than coworker support in mitigating the effects of stress (Ganster, Fusilier, and Mayes, 1986).

Although supervisors in law enforcement agencies are in critical position in which they are expected to mitigate the influence of different kinds of stressors on their subordinates (Engel, 2003; Shelton, 2007), recent research (Stevens, 2007) found that officers consider supervisors' management styles a significant source of stress. Finnz and Tomz (1998) state one reason that supervisors are perceived as a significant source of stress is that the supervisors and the officers may identify different stressors within the organization or may give different values to stressors. Such differing perceptions may reduce supervisors' enthusiasm for helping subordinates to mitigate stressors. Supervisors have both direct and indirect effects on the occupational stress of law enforcement officers (Dollard et al., 2003).

In addition to individual characteristics such as coping skills that buffer the effects of stressors in organizational life, support from supervisors and coworkers is also a buffer. In their study, Cullen et al. (1985) found a significant negative relationship between supervisor support and the effects of stressors. Schroeder, Lombardo and Strollo, (1995) point out that law

enforcement organizations' success depends heavily on the quality of the first line supervision as compared to other levels of supervision.

In a study of the educational level, job satisfaction, and stress among 60 law enforcement officers, Gatson (2002) found that officers having high school degrees reported more stress than did their counterparts with bachelor degrees, though the results were not significant. Newhall (2000) found results consistent with Gatson's, that law enforcement officers with college degrees experienced less anxiety and stress.

Dantzker (1999) examining the relationship between the education levels of law enforcement officers and organizational stress, found interesting results: the stress level of the officers with high school diplomas was greater than that of those with associate degrees, but the officers with bachelor degrees reported higher levels of stress than the less educated officers did, which is not consistent with the common findings that the higher the education, the lower the stress. On the other hand, Dantzker also found a result consistent with the literature: for law enforcement officers, having a master's degree is a sign of low levels of stress.

The quasi-military structure of law enforcement organizations creates more stress for officers with high levels of education than for their less educated counterparts, since educated people are more likely to question the efficacy of rules and procedures but are not allowed to do so under a strict command structure. They are expected to obey directives by their supervisors unquestioningly (Asen and Colon 1995; Violanti 1999).

In terms of gender difference and stress in the police profession, Dowler and Arai (2008) summarize some research findings with mixed results. While some studies conclude that male officers experience less stress than their female counterparts do (Bartol et al., 1992; Wertsch, 1998), in a study by Norvelle, Hills, and Murrin in 1993 male officers reported higher levels of stress, dissatisfaction, and exhaustion than female officers did.

2.6 Theoretical Framework

The Spielberger State-Trait (STP) model of occupational stress developed by Spielberger, Vagg, and Wasala (2003), and Kahn and Byosiere's (1992) model of the process of stress development in organizations are used as the theoretical frameworks for this study. According to the STP model, stress is conceptualized as a complex process with three major parts: 1) sources of stress in the work environment, 2) employee perception and appraisal of a particular stressor, and 3) the arousal emotional reactions when a stressor is appraised as threatening (Spielberger et al., 2003).

The mind-body arousal resulting from physical and/or psychological job demands is described as occupational stress when the escalation of a stressor is established as threatening, that leads to anxiety and anger. Autonomic nervous system responds to these threatening appraisals. Severe and persistent appraisals result in physical and psychological strain, which may cause adverse behaviors (Spielberger et al., 2003).

Botha and Pinear (2006) show the application of the STP model of occupational stress in determining occupational impact of a stressful event as:

> Employees evaluate their work environment in terms of the severity and frequency of occurrence of specific job demands and pressure and the level of support provided by other employees (supervisors and co-workers), as well as organizational features (policies and procedures). Failing to take the frequency of occurrence of a particular stressor into account may contribute to overestimating the effects of highly stressful situations that rarely occur, while underestimating the effects of moderately stressful events that are frequently experienced (p.76).

Briefly, Botha and Pinear assert the need to consider both the frequency and the level of stress of an occurrence, and the support mechanisms, in order to adequately assess employees' environment. Under the assumptions of the STP model of occupational stress, scholars agree on two broad categories of occupational stress in policing (Violanti and Aron, 1995; Storch and Panzarella, 1996; Biggam et al., 1997; Kop et al., 1999; Zhao, 2002). The first category is organizational aspects of police work: constant organizational policy change, a lack of trust in management, and a lack of communication among employees. The second category reflects the nature of police work: exposure to physical threat, force, and danger; shift work; and dealing with unknown and unpredictable problems. Of these two categories, organizational factors have been identified as the most prominent (Crowe and Stradling, 1993; Evans and Coman, 1993; Kop and Euwema, 2001).

Kahn and Byosiere's (1992) process of stress development in organizations is another theoretical foundation for this study (Figure 1). Kahn and Byosiere hypothesized a causal sequence of the relationship among stressors, responses to stress, and consequences of stress in their stress developmental process diagram. They conceptualize the source of stressors in organizational life; physiological, psychological (i.e., depression, job satisfaction), and behavioral responses to stress; and the consequences of stress in health and illness-related

problems (i.e., heart attack, burnout, diminished concentration), diminished performance in other life roles, and diminished organizational performance (i.e., turnover, absenteeism).

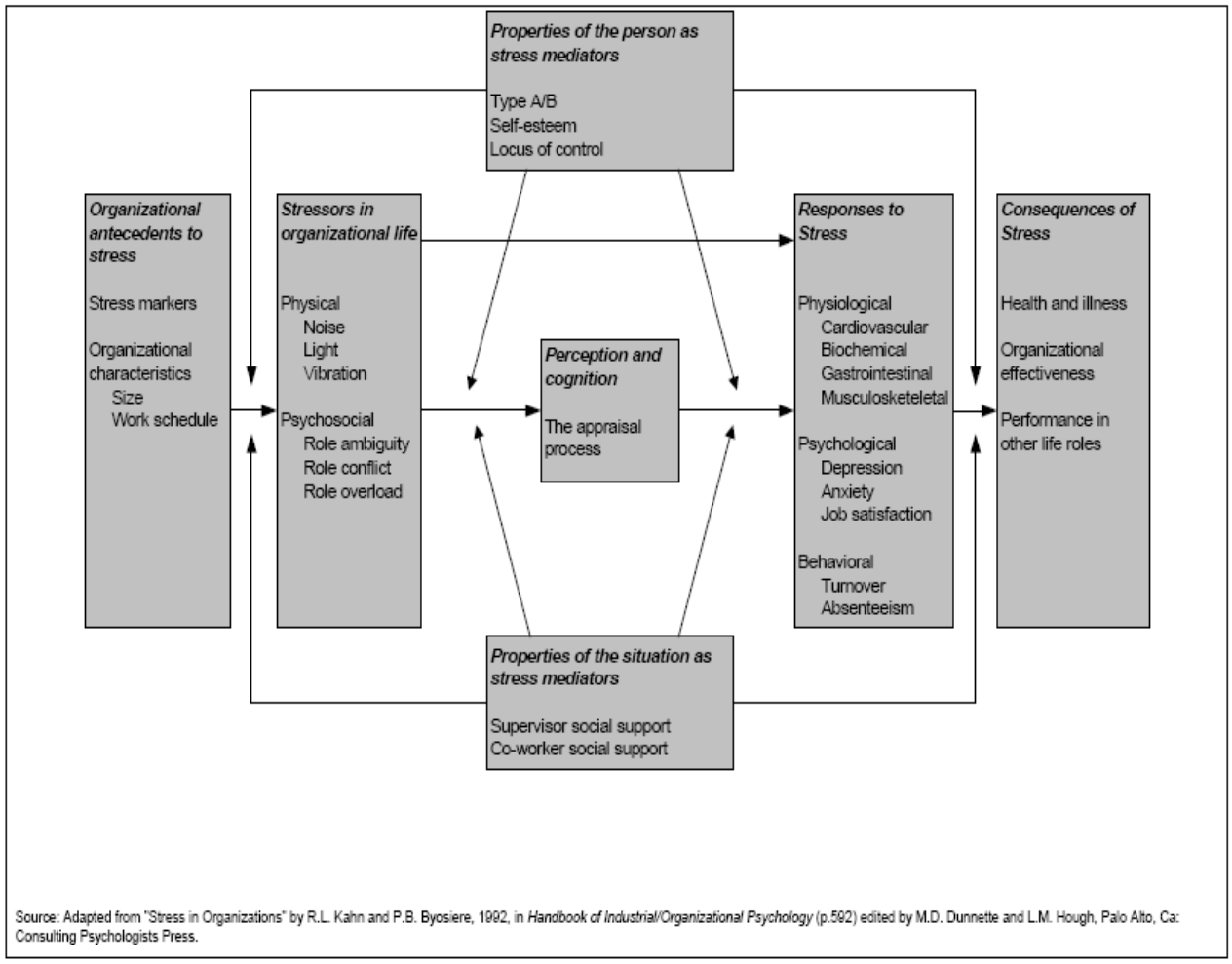


Figure 1: Kahn and Byosiere's Stress Developmental Process Diagram

Successful integration of the STP model of occupational stress and Kahn and Byosiere's stress developmental process diagram has generated a conceptually sound and theoretically relevant model from which this study proceeds (Figure 2).

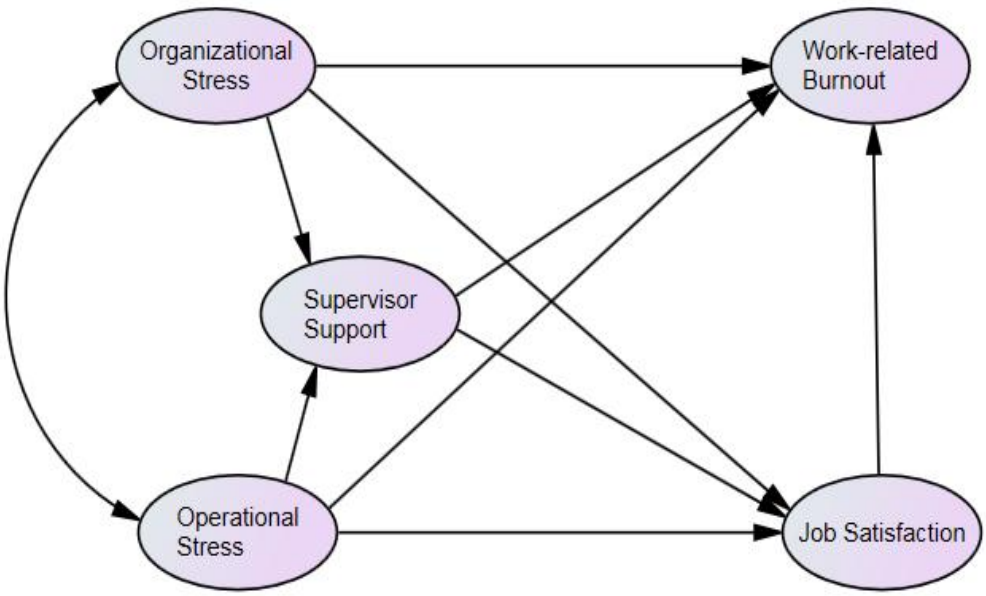


Figure 2: Conceptual Model of Occupational Stress and Wellbeing

From the conceptual model of occupational stress it is expected that both organizational and operational stress have effects on the wellbeing of TNP members as measured by burnout and level of job satisfaction. Supervisor support is expected to mediate the relationship between organizational and operational stress and the wellbeing of TNP members.

2.7 Statement of Hypothesis

The study model proposes several relations among the latent variables that take into consideration multiple conditions in which an officer might experience stress that results in reduced job satisfaction and eventual burnout (Ivanhoff, 1994; Violanti and Aron, 1994; Sauter and Murphy, 1995; Spector, 1997; Violanti, 1997; Schaufeli and Bakker, 2004). As discussed earlier, stress inducers in the police work include unpredictable work patterns, long hours,

repeated exposure to traumatic events, death, quasi-military bureaucratic structure, perceived lack of community support, and inadequate internal promotion.

2.7.1 Occupational Stress and Job Satisfaction

Occupational stress is considered to have strong associations with many adverse organizational outcomes. One of the most consistent findings is that higher levels of job stress are associated with lower levels of job satisfaction (Spector, 1997). In research on law enforcement, reduced job satisfaction has been identified as one of the most notable consequences of exposure to acute and chronic stressors (Ivanhoff, 1994; Violanti, 1997). In addition, the bureaucratic structure of law enforcement organizations leads to employee dissatisfaction (Stinchcomb, 2004). In the light of the empirical findings in the literature and the conceptual framework developed above, the following hypotheses are developed to test the structural relationship between occupational stress and job satisfaction:

H_1: Turkish National Police (TNP) employees' organizational stress is negatively associated with their job satisfaction levels.

H_2: Turkish National Police (TNP) employees' operational stress is negatively associated with their job satisfaction levels.

2.7.2 Occupational Stress and Burnout

Sauter and Murphy (1995) pointed out that working in a highly stressful occupation carries many risks for the psychological wellbeing of employees. Several study findings have shown that occupational stress is one of the strongest predictors of higher levels of burnout

(Stearns and Moore, 1993). Organizational, job and personal characteristics have all been emphasized as important factors that could influence burnout (Schaufeli and Bakker, 2004). To test the structural relations among the study variables, the following hypotheses are proposed:

H_3: Turkish National Police (TNP) employees' organizational stress is positively associated with their burnout levels.

H_4: Turkish National Police (TNP) employees' operational stress is positively associated with their burnout levels.

2.7.3 Relative Importance of Organizational and of Operational Stress

Further hypothesis statements receive their authenticity from the scholarly findings that organizational stressors exert more influence on the wellbeing of police officers than operational stressors do (Kroes et al., 1974; Band and Manuelle, 1987; Crank and Caldero, 1991; Kohan and Mazmanian, 2003). Therefore, the following two hypothesis of this study are proposed:

H_5: Turkish National Police (TNP) employees' organizational stress is more influential than the employees' operational stress on their job satisfaction levels, holding demographic and organizational factors constant.

H_6: Turkish National Police (TNP) employees' organizational stress is more influential than the employees' operational stress on their burnout levels, holding demographic and organizational factors constant.

2.7.4 Job Satisfaction and Burnout

Job satisfaction is strongly associated with many individual and organizational outcomes (Judge et al., 2001). Violanti and Aron (1994) found a strong and positive relationship between high levels of job satisfaction and the psychological wellbeing of police officers. Therefore, the seventh hypothesis of the study is as follows:

H_7: Turkish National Police (TNP) employees' self-reported job satisfaction levels are negatively associated with their burnout levels, holding demographic and organizational factors constant.

2.7.5 Supervisor Support, Job Satisfaction, and Burnout

As stated by Beehr and McGrath (1992), social support is strongly associated with individual and organizational outcomes in the relationship of occupational stress with strain. Cooper and Marshall (1978) state that people who have close and cohesive relationships with their co-workers and have supervisors who encourage them to participate in decision making have lower levels of stress.

Previous research on occupational stress and burnout in police has showed that the importance of peer support among officers and the importance of trust between officers and their supervisors in mitigating stress and burnout (Morris et al., 1999). Perceived workplace social support acts as a buffer between stress and burnout (Greenglass et al., 1994). Eztion (1984) and Viswesvaran et al. (1999) also have reported that enhanced social support may reduce stress.

Moyle (1998) pointed out the importance of workplace support for wellbeing and stated that workplace support reduces work-related adverse outcomes such as job dissatisfaction.

In order to test the impact of supervisor support, one of the important social supports, on job satisfaction (Eisenberger et al., 1997) and the other noted indicator, burnout (Brown and O'Brien, 1998), the final four hypotheses are proposed as follows:

H_8: Supervisor support mediates the adverse effect of organizational stress on Turkish National Police (TNP) employees' burnout levels.

H_9: Supervisor support mediates the adverse effect of operational stress on Turkish National Police (TNP) employees' burnout levels.

H_{10}: Supervisor support mediates the adverse effect of organizational stress on Turkish National Police (TNP) employees' job satisfaction levels.

H_{11}: Supervisor support mediates the adverse effect of operational stress on Turkish National Police (TNP) employees' job satisfaction levels.

Work-related stress and its varied impacts at the individual, organizational, and most importantly community level requires vigilant consideration, since law enforcement officers are working in a human service occupation where they are exposed to many stressful events. Several studies on law enforcement stress indicate that work-related factors create stress for law enforcement personnel, and stress is directly related to their psychological, emotional, and physiological well-being. In police stress literature, organizational aspects of police

organizations are found to be more bothersome than inherently work stressors. Based on the findings in the literature and assumptions of Khan and Byosiere's (1992) causal theory, eleven hypotheses were formulated to evaluate the effects of occupational stress on the work-related wellbeing of Turkish National Police (TNP) members. Detailed information is provided about the sampling, survey instrument, and statistical analysis in the next methodology section.

CHAPTER THREE: METHODOLOGY

The purpose of this study was to investigate the impacts of occupational stress on the wellbeing of TNP members, measured as job satisfaction and work-related burnout. Nine hypotheses were developed based on the theoretical framework and the empirical findings from law enforcement literature, to test the relationship between occupational stress and wellbeing as well as the effect of supervisor support as mediator to mitigate the impact of occupational stress on the wellbeing of TNP members.

Study variables and their operationalization are presented in the first section. Secondly, information about the sampling method, power analysis and sample size justification process, and data collection are discussed. The third section presents the survey instruments and their reliabilities. Finally the statistical analysis is presented, with discussion of the steps in the confirmatory factor analysis and structural equation modeling.

3.1 Study Variables

This study has two exogenous and two endogenous variables, and one mediator variable, which are based on the literature. Organizational stress and operational stress are the exogenous variables. Job satisfaction and burnout are the endogenous variables. Supervisor support is used as a mediator variable for the relationship between the exogenous variables and the endogenous variables. Study variables were measured using multiple indicators. The rationale for each dimension is discussed in the following topics.

3.1.1 Organizational and Operational Stresses

Multiple types of occupational stressors have been identified in prior research. They include bureaucratic process within the organization; perceived lack of support from community and leaders; lack of promotion opportunities offered by the organization (Stinchcomb, 2004; Burke and Mikkelsen, 2006); inconsistent discipline procedures and management style; lack of administrative support (Toch et al., 2002); dealing with crime victims; and shift work (Burke and Mikkelsen, 2006; Violanti and Paton, 1999); and traumatic exposure (Brown et al., 1999).

Previous studies that aim to identify the effects of various organizational stressors on law enforcement officers are qualitative, depending on interviews of and observations about specific focus groups (Band and Manuelle, 1987).

Despite the abundance of studies, McGreary and Thompson (2006) state that the existing research on police stress has many limitations. They argue that the primary limitation is that stress research has been qualitative and specific to information derived from interviews with police officers. Though they emphasize the importance of qualitative research on policing, they note their dissatisfaction with the lack of diversity in this perspective:

> Although a qualitative approach gives researchers an excellent snapshot into the lives of police officers, it cannot be used to quantify how much stress officers are under or the degree to which those stressors are associated with outcome variables such as job satisfaction (McGreary and Thompson, 2006; p.496).

McGreary and Thompson (2006) also cite secondary limitation, concerning the availability of a measurement scale for police stress. The extreme length of existing surveys (e.g. the Police Daily Hassles scale consists of 86 stressors) and the lack of access to other surveys

(e.g. the Police Stress Survey) are a burden on survey participants and prevent adoption and use (McGreary and Thompson 2006). In response to these limitations, McGreary and Thompson (2006) developed and validated two police stress questionnaires: Organizational Police Stress Questionnaire (PSQ-Org), and Operational Police Stress Questionnaire (PSQ-Op), which limit the number of questions to 20.

3.1.2 Job Satisfaction

The concept of job satisfaction is generally defined as one's cognitive, emotional, and behavioral responses to a job as a result of evaluation of job features and job-related events (Locke, 1976). Spector (1997, p.2) defined job satisfaction as "How people feel about their jobs and different aspects of their jobs. It is the extent to which people like or dislike their jobs."

Despite the apparent simplicity of these statements, a comprehensive and deep understanding of the intrinsic and the extrinsic aspects of the police occupation is needed (Davis, 1996). Koeske et al. (1994) note some extrinsic aspects of job satisfaction: salary and promotion provided by the organization, the intrinsic aspects include work with citizens and colleagues, educational opportunities, organizational support, personal needs for recognition and accomplishment, and social support.

One of the most comprehensive definitions of job satisfaction is Spector's (1997). He describes nine aspects to evaluate in the context of job satisfaction. The nine aspects are pay, promotion, supervision, benefits provided, contingent rewards as a means of recognition and appreciation, operating procedures and policies, dealing with coworkers, nature of the work, and

communication within the organization. This study used Spector's (1985) Job Satisfaction Survey (JSS) to gather data for analysis.

3.1.3 Burnout

Schaufeli and Enzmann (1998, p.36) define burnout as follows:

> Burnout is a persistent, negative, work-related state of mind in 'normal' individuals that is primarily characterized by exhaustion. They state that this state of mind is normally accompanied by distress, a sense of reduced effectiveness, decreased motivation, and the development of dysfunctional attitudes and behaviors at work.

In the literature on burnout, the Maslach Burnout Inventory (MBI) has been used by many researchers (Schaufeli and Buunk, 2003). The original MBI received a great deal of criticism because of its limited applicability to human service professionals. A modification, the MBI-General Survey (MBI-GS), corrected this bias, creating a survey applicable to all employment sectors. However, this survey also has received criticism.

An additional survey instrument on burnout developed by Kristensen et al. (2005) is the Copenhagen Burnout Inventory (CBI), based on their critical analysis of the MBI. CBI consists of three scales, designed for three domains: personal burnout, work-related burnout, and client-related burnout. An important design feature of CBI is its distinctive measurements of three different domains. One dimension particularly relevant to this research is the ability to assess the effects of organizational and operational stress on work-related burnout. Kristensen et al. (2005, p. 197) define work-related burnout as "the degree of physical and psychological fatigue and exhaustion that is perceived by the person as related to his/her work." After analyzing the CBI,

Wan-Yu et al. (2007, p. 127) state that it measures the status of burnout in a more straightforward way. Thus items from the Copenhagen Burnout Inventory (CBI), work-related burnout subscale were used for this study.

3.1.4 Supervisor Support

Etzion (1984) define social support as an informal social network that consists of interpersonal transactions, providing practical assistance and information along with demonstrations of emotional support. Interactions with a supervisor are considered an important source of social support. Supervisor support was measured by the relevant items in Karasek's Job Content Survey (Karasek et al., 1985).

3.1.5 Control Variables

Gender, age, working experience in the department, rank, and assignment type are the common demographic variables in most studies of police stress (Violanti and Aron, 1995; Newman and Rucker-Reed, 2004). Zhao et al. (1999) cited as representative individual level variables that are associated with burnout and reduced job satisfaction: service years, gender, and shift work. Ellison and Genz (1983) found that the bureaucratic nature of a police organization's work is particularly stressful for female officers. One note on age is particularly relevant; British researchers (Johnson et al., 2005 as cited in Martinuessen et al, 2007) found that as age rises, officers experience higher levels of job satisfaction and less stress.

In order to control other factors that might affect job satisfaction and burnout levels of TNP members, both organizational level and individual level variables were included in the

model. The individual attributes of tenure, education level, age, gender, marital status, and rank are included in the study. The individual level variables are included in recognition of their impact on job satisfaction and burnout levels of the TNP members in addition to the effects of the study's exogenous variables. The type of shift work of personnel was also selected to control for organizational attributes.

Operational definitions of the study variables are presented in Table 1.

Table 1: Operational Definitions of Study Variables

LATENT	INDICATOR	ATTRIBUTE	MEASUREMENT	OPERATIONALIZATION
Organizational Stress	Favoritism	Endogenous	Ordinal	Participants will be asked to indicate the extent to which they agree with each statement about organizational stress over the past 6 months by using a five point Likert-scale ranging from "Strongly Disagree" to " Strongly Agree"
	Excessive administrative duties			
	Constant policy changes			
	Staff shortage			
	Bureaucratic red tape			
	Feeling pressure to volunteer free time			
	Lack of resources			
	Unequal sharing of work responsibilities			
	Internal Investigations			
	Dealing with court system			
Operational Stress	Shift work	Endogenous	Ordinal	Participants will be asked to indicate the extent to which they agree with each statement about operational stress over the past 6 months by using a five point Likert-scale ranging from "Strongly Disagree" to " Strongly Agree"
	Over-time demands			
	Risk of being injured			
	Exposure to traumatic events			
	Managing social life outside the job			
	Occupation-related health issue			
	Lack of understanding from family and friends			
	Negative comments from public			
	Feeling like you are always on the job			
	Not finding time to stay in good condition			
Work-related Burnout	Emotional exhaustion	Exogenous	Ordinal	Participants will be asked to indicate the extent to which they agree with each statement about work-related burnout by using a five-point Likert scale ranging from "Strongly Disagree" to " Strongly Agree"
	Burnout			
	Frustration			
	Worn out			
	Another day at work			
	Tiring working hours			
	Not enough energy for family and friends			

LATENT	INDICATOR	ATTRIBUTE	MEASUREMENT	OPERATIONALIZATION
Job Satisfaction	Pay	Exogenous	Ordinal	Participants will be asked to indicate the extent to which they agree with each statement about job satisfaction by using a five-point Likert scale ranging from "Strongly Disagree" to " Strongly Agree"
	Supervision			
	Benefits			
	Contingent reward			
	Operating procedures			
	Dealing with co-workers			
	Nature of work			
	Promotion			
	Communication within the organization			
Supervisor Support	Concern about the welfare of subordinates	Mediating Variable	Ordinal	Participants will be asked to indicate the extent to which they agree with each statement about supervisor support by using a five-point Likert scale ranging from "Strongly Disagree" to " Strongly Agree"
	Paying attention to what subordinate's saying			
	Helpful in getting the job done			
	Success in getting people to work together			
	Giving credit for things well done by subordinates			
	Criticizing small things			
	Backing up if there is a problem			
Demographic Variables	Rank	Control	Ordinal	From police officer to superintendent
	Marital Status	Control	Nominal	Married, Single, Divorce, Widow
	Age	Control	Ordinal	How old are you?
	Gender	Control	Nominal	Male, Female
	Education level	Control	Ordinal	The highest education degree completed
	Tenure	Control	Ordinal	The number of years working in TNP
	Shift work	Control	Nominal	Regular, Irregular shift work

3.2 Power Analysis

Sample size and power are two important concepts in the design of research studies. The power of the study can be defined as the probability of rejecting the null hypothesis when in fact it is false (Kaplan, 1995: Zhang and Wang, 2009). Power analysis is a judgment of the researcher about the required level of confidence. This study has an alpha level of 0.05 and the intention to ensure that the data integrity of the results reaches a confidence interval of 95%.

3.3 Sampling and Sample Size Justification

The unit of analysis of this study is the individual active police officer in Turkey. Currently, the Turkish National Police (TNP) has about 200,000 active members across multiple cities in Turkey. Consequently, the available pool of participants spans a wide variety of local and regional considerations. Sampling includes consideration of the TNP as the only national police organization in Turkey in which members are randomly appointed on a rotating basis to 81 cities of Turkey for specific periods of time. To ensure that the sample represents the whole population of the Turkish National Police, seven survey cities were selected representing each region in Turkey (Istanbul, Ankara, Izmir, Adana, Diyarbakir, Van, and Samsun). These cities were selected because each has the highest number of personnel in its region. The number in the sample drawn from each city department was proportionately calculated based on its total personnel number.

Since the targeted population of this study is the 200.000 active police officers of TNP, a sample of 383 is necessary with .95 confidence level and .5 margin of error. However, since

Rubin and Babbie (2005) state that the survey response rate should be 50 % or higher for statistical analysis, and the anticipated response rate for this study was 50 %, the sample size was doubled. Therefore, the survey was sent to 766 active police officers in Turkey. The following table lists the number selected for each city on the basis of that calculated sample size.

Table 2: Sampling Distributions of the Study

City	Number of Personnel	Percentage	Number of people sent the survey
ADANA	7,028	9	69
ANKARA	15,428	20	153
DİYARBAKIR	4,282	6	46
İSTANBUL	32,969	43	329
İZMİR	11,316	15	115
SAMSUN	2,772	4	31
VAN	2,197	3	23
Total	75,992	100	766

Several arguments have been proposed on the necessary sample size of a covariance structure model. Ding et al. (1995, as cited in Schumacker and Lomax, 2004) state that 100-150 subjects are the required minimum sample size for constructing structural equation models. Boomsma and Hoogland (2001) state that 200 is a reliable sample size for SEM models. Kline (2005) asserts that 10 respondents for each parameter are a reasonable estimate for sample size. On the other hand, Bentler and Chou (1987) state as a good rule of thumb that 5 cases for each parameter estimate are necessary for appropriate SEM analyses.

Following Bentler and Chou's (1987) rule of thumb, the study's sample size was determined by multiplying the number of parameter estimates in the model by 5. Since the study

has 67 parameters, a minimum of 335 study subjects is needed to ensure enough power for the SEM analysis.

3.4 Data Collection

Web-based survey was used to collect the data. Advantages of internet surveys include having no time limitations for participants' access of the survey (Birnbaum, 2004) and its convenient nature for data coding and entry (Bartlett, 2005).

The samples were randomly selected from Department of Personnel lists, using a stratified random sampling method. The personnel lists contain complete contact information on all active police officers from which the study sample is derived.

The personnel list of each selected city was used to draw the sample. Since the researcher is an active member of TNP, no problems were encountered in obtaining the personnel lists. Form the personnel lists, contact information such as e-mail addresses, and work phone numbers were obtained. For people who had e-mail addresses, the survey was uploaded to the survey monkey web site, and the survey link was sent to them. Those with no e-mail addresses were asked by phone what would be the most suitable way to complete the survey; they were informed about the purpose and significance of the study. Since many said that a hardcopy was the most convenient way to complete the survey, hardcopies of the questionnaire were sent to them by research assistants designated for each city by the researcher. Fortunately, many of the research subjects were reached by e-mail.

To maximize the response rate, Dillman's five contact strategies were used. As a first contact before sending a survey, an informative e-mail or letter was sent to emphasize the importance of the study and how valuable the person's participations would be. It was explained that an e-mail with the survey link or a questionnaire as hardcopy would arrive soon. Research findings have consistently shown that a pre-notice letter improves the response rate for mail surveys (Dillman, 2000).

As a second step, for the participants to whom pre-notice e-mail was sent, e-mail with the survey link was sent. The beginning of the survey informed participants that participation was voluntary and they would quit the survey whenever they wished. For those without email addresses in the personnel list, hardcopies of the questionnaire were distributed in person by the designated research assistants. Those participants were provided two options for returning the questionnaires: return their questionnaires to the designated research assistants in person, or to use the stamped envelope provided on which the return address was written. Since the majority of participants had e-mail addresses, the cost of stamped envelopes was not a problem.

At the third stage of Dillman's (2000) process for increasing the response rate, thank you/reminder e-mails and mailings were sent to participants. Dillman noted that a questionnaire, even if well designed, is usually laid aside with the intention of looking at it later; it may be forgotten or lost. Thank you/reminder mails are a way to jog participants' memories, rather than a device to overcome resistance. Since respondents' email or personal addresses were not recorded, the thank you/reminder e-mail or mailing was sent to all participants. For those who had already completed and returned the survey, that was a way of appreciating their

contributions to the study. Those who had not done so were asked to kindly do so as soon as possible and the value of their participation was emphasized again.

Since the required sample size had been achieved by the end of the third stage, there was no need to use other two steps. However, final thank you emails and letters were sent to all participants, expressing the appreciation of the researcher for their valuable contributions to the study.

3.5 Human Subjects

Since human subjects are involved in this survey, the required Institutional Review Board (IRB) approval was sought before initiating it. All participants were informed that participating in the study was voluntary and there would be possible risk for the subjects' rights and interests. In order to ensure confidentiality of the information obtained from the participants, their identity was kept anonymous. The survey asked for no personal information but only for perceptions about specific issues.

3.6 Survey Instrument and Reliability

The questionnaire consists of four sections, beginning with measurement of the perceptions of Turkish National Police (TNP) members about the occupational stress. Since occupational stress in the police field falls into two categories: organizational factors and operational factors, the questionnaire measured the perceptions of each dimension separately.

McCreary and Thompson (2006) developed the Operational Police Stress Questionnaire and the Organizational Police Stress Questionnaire after completing four studies on the Canadian

Police that showed officers categorized stressors into those two categories, operational and organizational. Then the authors computed Cronbach's alpha reliability coefficients for both developed operational and organizational scales, and found a .90 Cronbach's alpha score for the operational scale and a .89 Cronbach's alpha score for the organizational scale. Each scale has 20 items.

This study used the Organizational Police Stress Questionnaire and the Operational Police Stress Questionnaire developed by McCreary and Thompson (2006) to measure the TNP employees' perceptions of organizational and of operational stress. Participants were asked to indicate to what extent they agreed with each operational and organizational stress statement over the past six months, by using a five-point Likert scale ranging from "strongly disagree" to "strongly agree." For each construct, 10 items were selected among 20. The survey items about organizational stress are as follows:

1. *The feeling that different rules apply to different people (e.g. favoritism) has caused stress over the past 6 months.* (Favoritism)

2. *Excessive administrative duties have caused stress over the past 6 months.* (Excessive adminduty)

3. *Constant changes in policy / legislation have caused stress over the past 6 months. (*Policychange*)*

4. *Staff shortages have caused stress over the past 6 months.* (Stafshortage*)*

5. *Bureaucratic red tape has caused stress over the past 6 months.* (Redtapes*)*

6. *Perceived pressure to volunteer free time has caused stress over the past 6 months.* (Feelingpressure)

7. *Lack of resources has caused stress over the past 6 months.* (Lackofresources)

8. *Unequal sharing of work responsibilities has caused stress over the past 6 months.* (Unequalsharing)

9. *Internal investigations have caused stress over the past 6 months.* (Internalinvestigation)

10. *Dealing with the court system has caused stress over the past 6 months.* (Dealingwithcourt)

The survey items to measure operational stress are as follows:

11. *Shift work has caused stress over the past 6 months.* (Shiftwork)

12. *Overtime demands have caused stress over the past 6 months.* (Overtimedemands)

13. *Risk of being injured on the job has caused stress over the past 6 months.* (Riskofinjured)

14. *Traumatic events have caused stress over the past 6 months.* (Traumaticevents)

15. *Managing social life outside the job has caused stress over the past 6 months.* (Sociallifemanagement)

16. *Occupation-related health issues have caused stress over the past 6 months.* (Healthproblems)

17. Not finding time to stay in good physical condition has caused stress over the past 6 months. (Physicalfit)

18. Lack of understanding from family and friends has caused stress over the past 6 months. (Lackofunderstanding)

19. Negative comments from the public have caused stress over the past 6 months. (Negativepubliccomment)

20. *Feeling like you are always on the job has caused stress over the past 6 months.* (Alwaysonjob)

The second section of the survey comprises the measurement of two important endogenous variables; job satisfaction and burnout.

The Job Satisfaction Survey developed by Spector (1985) was used to measure the perceived job satisfaction of TNP members. Spector (1997) stated that Job Satisfaction Survey has high internal consistency with an overall Cronbach's alpha coefficient of .91. The Job Satisfaction Survey was chosen because of its applicability to a broad range of occupations (Blood et al., 2002). The Job Satisfaction Survey also has acceptable reliability across countries (Bruck et al., 2002; Schmidt, 2007).

For this study, one item from each subscale of the Job Satisfaction Survey was used, chosen by taking into account the characteristics of TNP members as derived from the personal knowledge of the researcher. Participants were asked to report to what extent they are satisfied with each item, by using a five-point Likert scale ranging from "strongly disagree" to "strongly agree."

The survey items pertaining to the job satisfaction variable are as follows:

21. I feel I am being paid a fair amount for the work I do. (Pay)

22. My supervisor is quite competent in doing his/her job. (Supervisor)

23. When I do a good job, I receive the recognition for it that I should receive. (Contingentrewards)

24. I like the people I work with. (Coworkers)

25. Communications seem good within this organization. (Communication)

26. The benefits we receive are as good as most other organizations offer. (Benefits)

27. I like doing the things I do at work. (Natureofwork)

28. Many of our rules and procedures make doing a good job simple. (Operatingprocedures)

29. *Those who do well on the job stand a fair chance of being promoted.* (Promotion)

The second section also includes particular questions derived from the Copenhagen Burnout Inventory (CBI) in order to measure the work-related burnout levels of TNP members. The CBI contains scales for personal burnout, work-related burnout, and client-related burnout. The authors of a five-year intervention study of 1914 employees from seven different workplaces, called PUMA, concluded that CBI indicates very satisfactory reliability results for all three scales with corresponding Cronbach's Alpha values of .85 and .87 (Kristensen et al., 2005).

For the purpose of this study, the work-related burnout subscale that consists of seven items was chosen. Participants were asked to express feelings about their moods in terms of physical and psychological exhaustion as related to their work, by using five-point Likert scale ranging from "strongly disagree" to "strongly agree." The survey questions about work-related burnout are as follows:

30. *My work is emotionally exhausting.* (Emotionalexhaustion)

31. I feel burnt out because of my work. (Burnout)

32. My work frustrates me. (Frustration)

33. I feel worn out at the end of the working day. (Wornout)

34. I am exhausted in the morning at the thought of another day at work. (Anotherday)

35. I feel that every working hour is tiring for me. (Tiringworkinghour)

36. I have no energy for family and friends during leisure time. (Noenergy)

The third section of the study contains the measurement of the supervisor support variable. In their study conducted to examine the effects of social support on job satisfaction and burnout levels of 211 traffic enforcement agents in New York, Baruch-Feldman et al. (2002) found that three different types of social support were associated with job satisfaction and burnout. To measure supervisor support, they used Karasek's Job Content Survey (Karasek et al., 1985), modifying scale items for the use of the traffic agents. They found good internal consistency result for supervisor support scale (Cronbach's Alpha: .91). This study used items to measure supervisor support that were drawn from those modified items. To ensure the robustness of the instrument, both positively and negatively worded questions were selected. Among the identical items of the surveys, short and clear items were preferred. Participants were asked to indicate their agreement or disagreement with each item on a five-point Likert scale ranging from "strongly disagree" to "strongly agree."

The survey items pertaining to the supervisor support variable are as follows:

37. My supervisor is concerned about the welfare of those under him or her. (Welfare)

38. My supervisor pays attention to what I am saying. (Payattention)

39. My supervisor is helpful in getting the job done. (Getjobdone)

40. My supervisor is successful in getting people to work together. (Worktogether)

41. My supervisor gives me credit for things I do well. (Creditforwell)

42. My supervisor criticizes me for small things. (Criticize)

43. My supervisor backs me up if there is a problem. (Backup)

The fourth and final section of this study includes these demographic variables: age, gender, rank, educational level, marital status, years of employment, and shift work. The age of the police officers is clustered into five categories: 25 years old or younger, 26-30 years old, 31-35 years old, 36-40 years old, and 41 years old or older. The highest educational degree that participants had completed was asked by using five categories: high school, two-year college, Bachelor of Arts/Science, Master of Arts/Science, and Ph.D. Officer rank was measured on a five-point Likert scale that ranges from police officer to Major or higher. Tenure was measured by asking how long the participants have been working in the Turkish National Police (TNP), to be answered on a five-point Likert scale (5 years or less, 6-10 years, 11-15 years, 16-20 years, and 21 years or more).

Participants were asked to indicate work shifts by using the four categories that are commonly used for TNP: 12/12, 12/24, 12/36, 8-5 or 9-6. For the first three categories, the first numbers refers to working hours per day and the second refers to off time. The last category represents the concept of working for all weekdays from 8.00. or 9.00. a.m to 5.00 or 6.00 p.m.

Gender was categorized as male or female. Marital status was categorized as married, single, divorced, and widow. Lastly, since this study survey was conducted in seven cities: Istanbul, Ankara, Izmir, Adana, Diyarbakir, Van, and Samsun, participants were asked to state the cities where they work.

The survey was translated into Turkish; the Turkish version was verified by Ismail Sahin and Yildirim Uryan, who are native speakers of Turkish and members of TNP. They hold Ph.D.s from the University of Central Florida.

3.7 Statistical Analysis

Statistical analysis of the study was conducted in three main parts: descriptive analysis, confirmatory factor analysis (CFA), and structural equation modeling (SEM). A separate section is devoted to explaining the statistical analysis criteria set for the study.

3.7.1 Descriptive Analysis

The descriptive analysis of the study is presented in separate frequency tables for each variable, to illustrate the distributional characteristics of the survey data. Tables including correlation matrixes for each latent construct examine the relationship between the indicators of each latent construct. Spearmann rho statistics was also used to check the problem of multicolliniearity, if any, among the latent variables' indicators.

3.7.2 Confirmatory Factor Analysis

The second section of the statistical analysis is confirmatory factor analysis (CFA), which was used to develop and validate the measurement model for the latent variables in the study. Since latent variables cannot be directly observed and measured, measurement models are developed for each latent variable using multiple observable indicators (Byrne, 2006). CFA is considered a powerful statistical tool to validate measurement models for the latent constructs (Wan, 2002).

A three-stage approach, described by Wan (2002), was used to develop and validate the best measurement models. The first stage for developing a measurement model is to check the indicators' appropriateness. Checking the critical ratio of standardized regression weight of each indicator is the first step, to specify whether it is significant or not at the established confidence level. Having critical ratio value equal to +1.96 or higher, and -1.96 or lower at the .05 confidence level establishes the indicators' significance (Byrne, 2006). Insignificant indicators were excluded from the measurement models.

In the second stage of CFA, overall model fit was evaluated to understand how well our measurement models fit the data. Goodness of fit statistics produced by AMOS software was used to evaluate whether or not the measurement model fit the data.

The third stage of CFA is defined by Wan (2002) as "to identify the possible sources of the lack of it. The commonly used indicators are modification indices, which show the extent to which the model fit could be improved by adding certain constraints between variables" (p.82).

Modification index illustrates how much the value of chi-square decreases by at least the value of the index when the pair of error terms is correlated (Wan, 2002). The modification index that is an output of AMOS statistical software presents pairs of error terms yielding the largest improvement in the model.

This study has five latent variables; two exogenous variables, two endogenous variables, and one mediating variable.

The first exogenous latent variable is organizational stress. To measure organizational stress, ten indicators selected from the Organizational Police Stress Questionnaire developed by McCreary and Thompson (2006) was used in the model (Figure 3).

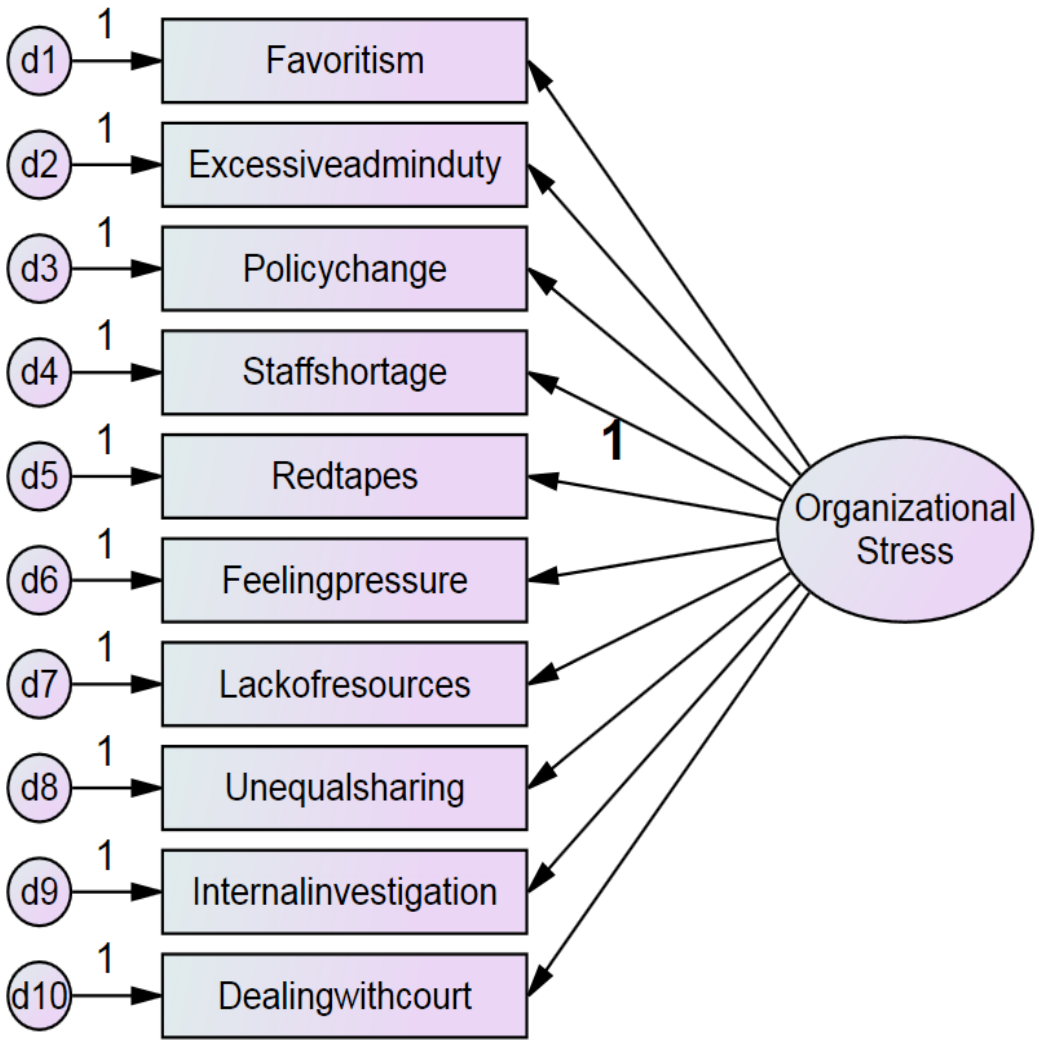


Figure 3: Measurement Model of Organizational Stress (Exogenous Latent Variable)

The measurement model for the second exogenous latent variable (Figure 4), operational stress, consists of ten indicators selected from the Operational Police Stress Questionnaire developed by McCreary and Thompson (2006).

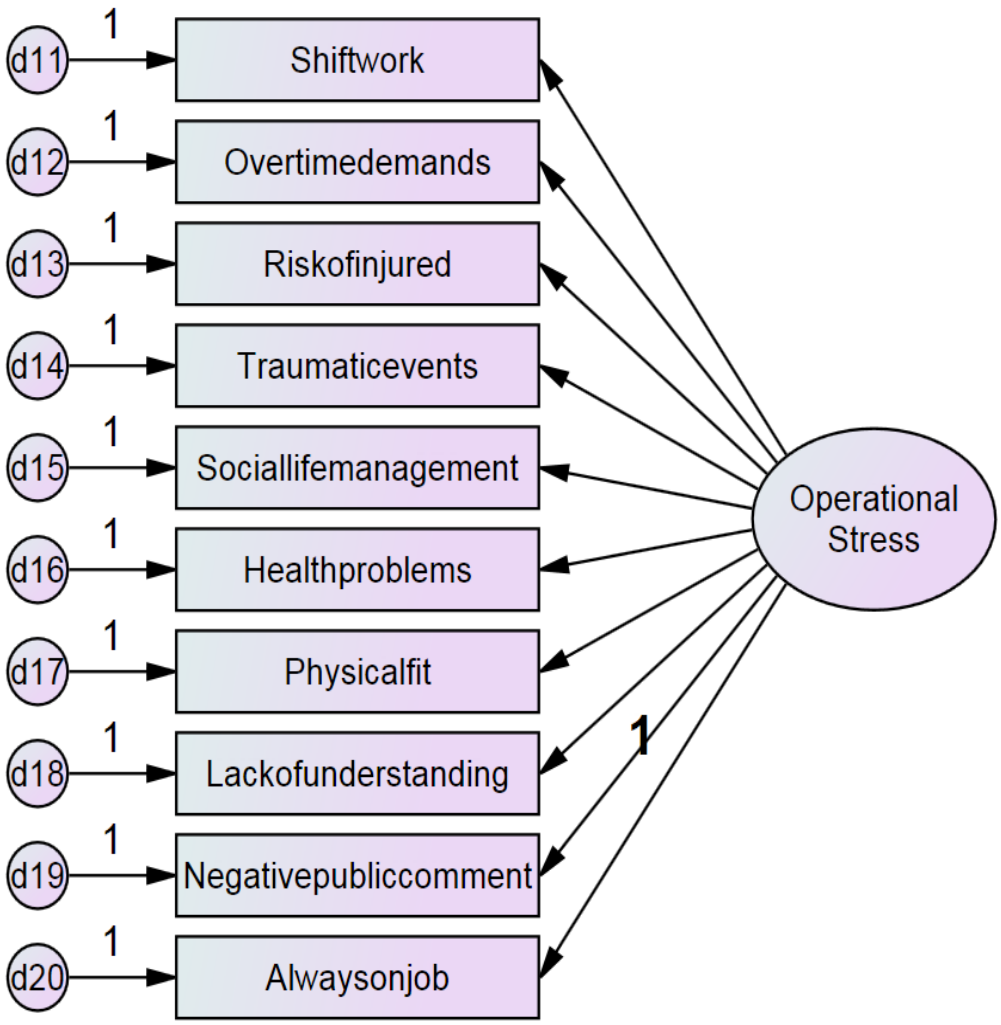


Figure 4: Measurement Model of Operational Stress (Exogenous Latent Variable)

Job satisfaction, one of the endogenous latent variables, was measured by nine indicators, one item from each subscale of the Job Satisfaction Survey developed by Karasek (1985) (Figure5).

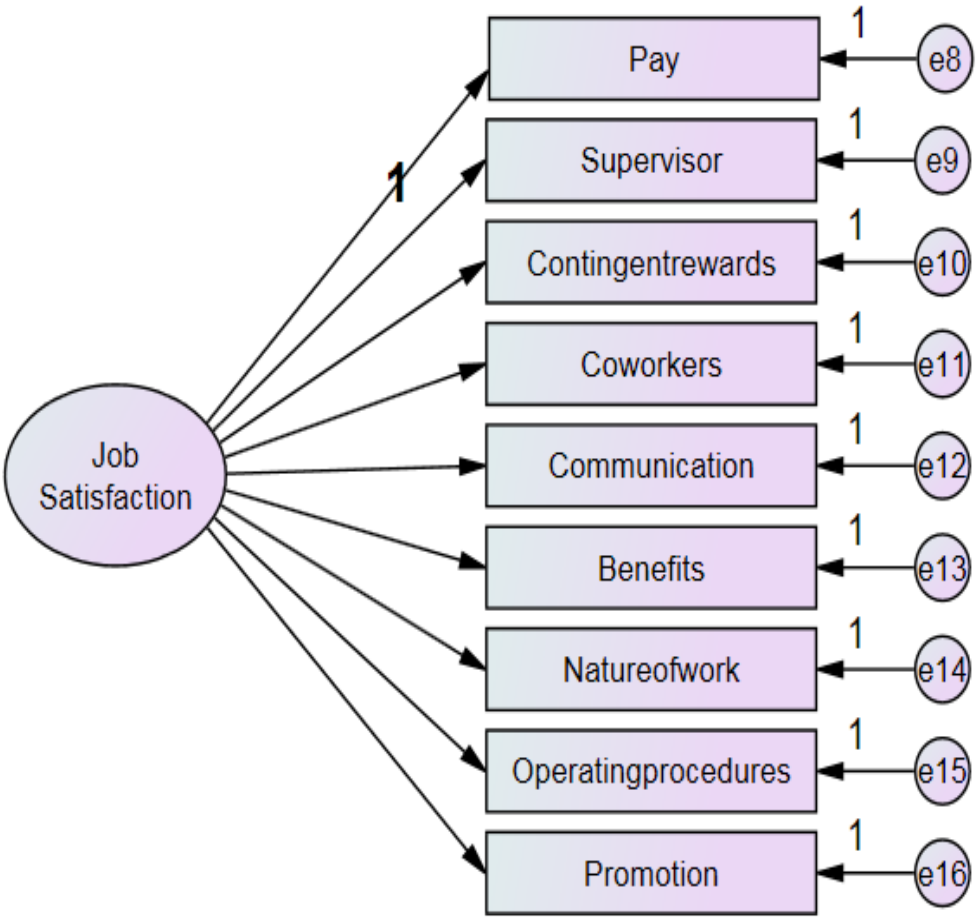


Figure 5: Measurement Model of Job Satisfaction (Endogenous Latent Variable)

Seven indicators selected from the Copenhagen Burnout Inventory (CBI) work-related burnout subscale were used in the measurement model of burnout, the second endogenous variable (Figure 6).

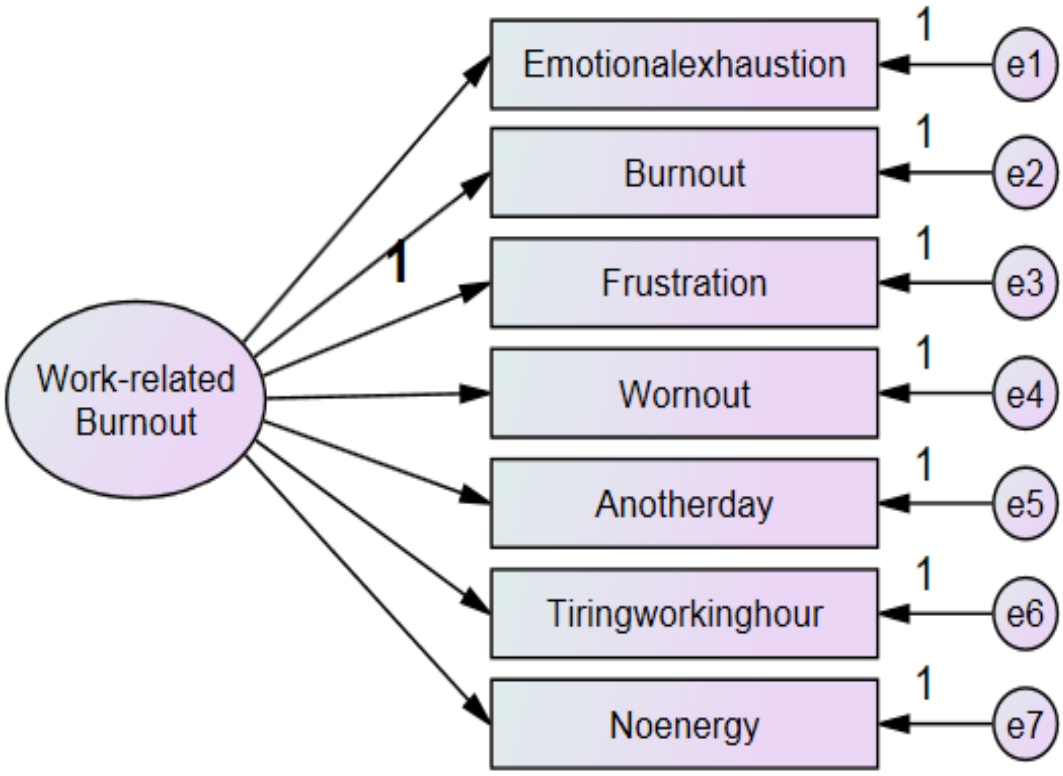


Figure 6: Measurement Model of Work-related Burnout (Endogenous Latent Variable)

For supervisor support, the situational mediating latent variable, a measurement model with seven indicators was developed (Figure 7).

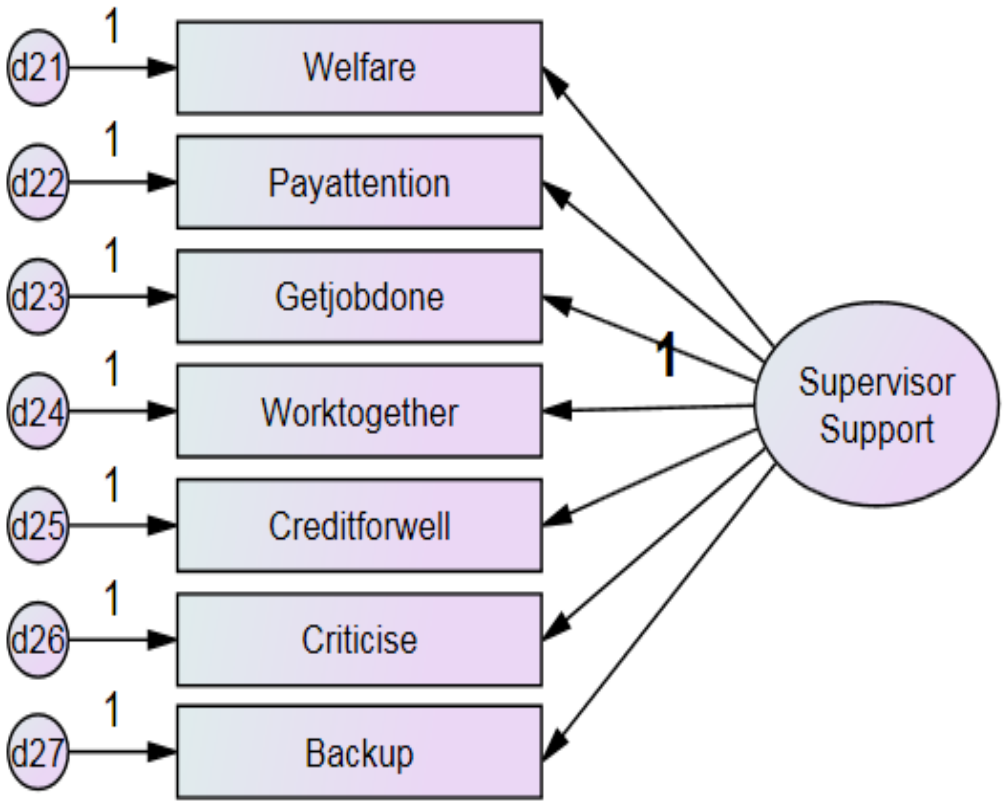


Figure 7: Measurement Model of Supervisor Support (Exogenous Latent Variable)

3.7.3. Structural Equation Modeling

The last section of statistical analysis is Structural Equation Modeling (SEM), a statistical process that assesses how well the collected sample data fit to the theoretically driven developed model. Unlike other statistical analyses, using SEM in data analysis has the strength to extract measurement error from estimates of observed variables, which provides more accuracy in estimating the strength and degree of relationship (Byrne, 2001). Similarly, DeShon (1998)

emphasize the advantages of SEM, asserting: “This analysis technique allows the researcher to simultaneously estimate a measurement model, specifying relations between measured variables and underlying latent variables, and to specify structural relations among the latent variables.” (p. 412).

SEM consists of measurement models of exogenous and endogenous variables, and control variables to investigate the structural relationship between them. Based on the literature, the study hypotheses statements propose that both organizational and operational stress reduce the job satisfaction levels of TNP members and increase the burnout levels. Of these two occupational stressors, organizational stress is expected to have more effect than operational stress has on the job satisfaction and burnout level of TNP members.

Additional hypotheses based on the literature represent supervisor support as mediating the relationship between both organizational and operational stressors and the two exogenous variables: job satisfaction and burnout. Control variables were included in the structural model to provide more understanding of the relationship between the variables by isolating related and unrelated factors represented in the control measures. The following figure represents the structural equation model of the study (Figure 8).

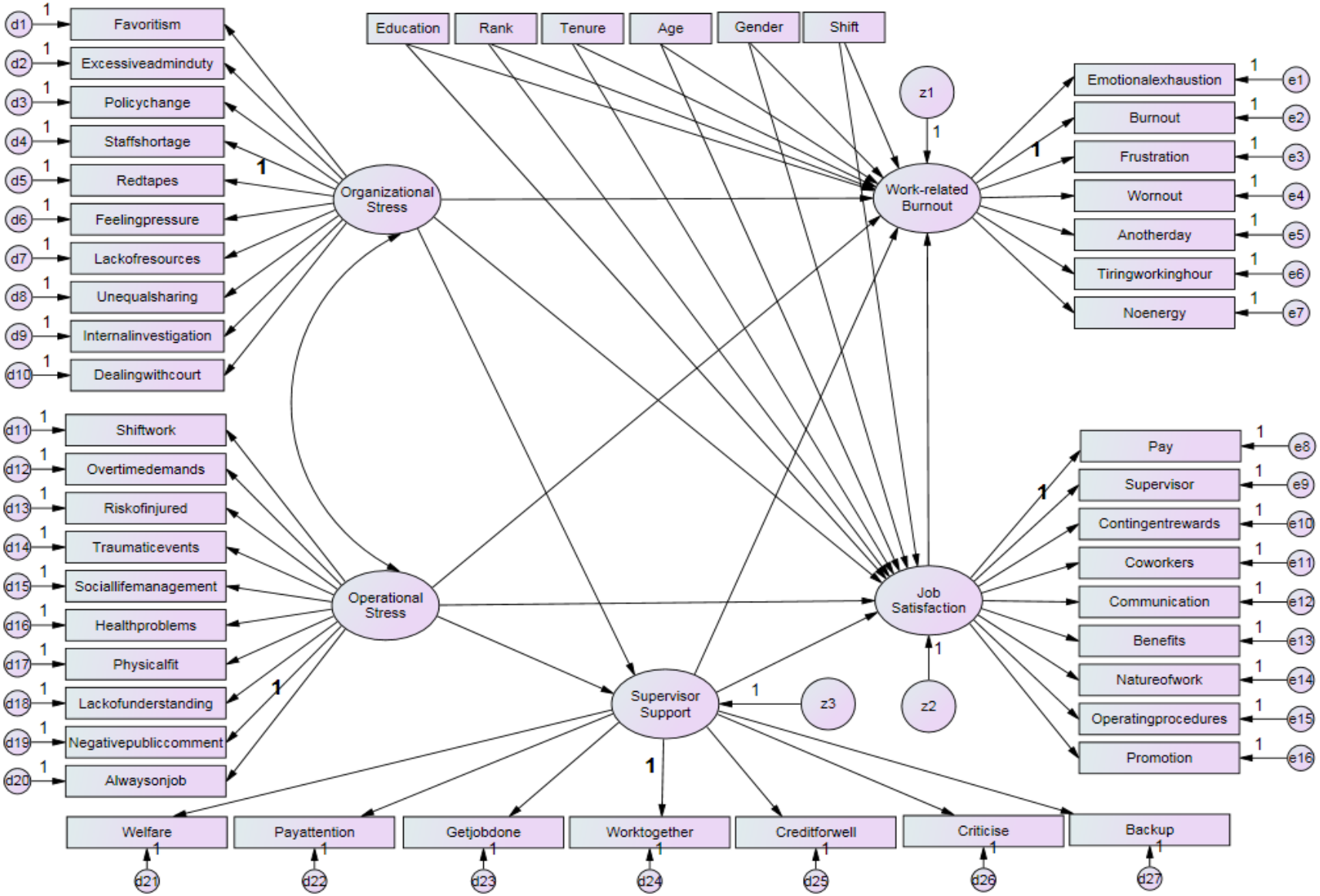


Figure 8: Structural Equation Model of Occupational Stress and Wellbeing of TNP Members

3.7.4 Statistical Analysis Criteria

3.7.4.1 Multicollinearity

Multicollinearity occurs when variables are highly correlated with each other. A correlation coefficient matrix with correlations of .90 or higher (Kline, 2005) and .70 or higher (Meyers et al., 2006) among study variables can be a sign of multicollinearity. To eliminate multicollinearity the Spearman Rho correlation test was used. This test clearly identifies high correlations of more than .70 coefficient values.

3.7.4.2 Significance level

The significance level is the criterion selected for rejecting the null hypothesis. Significance level refers to probability of rejecting the null hypothesis when in fact it is false (Mendenhall et al., 2001). Significance level illustrates how likely a result is to be due to chance. The most common significance level is .95, meaning that the finding has a 95% chance of being true. Therefore, for this study, a significance level of .95 was set. Many statistical package shows .05, meaning that the finding has 5 % chance of not being true - the converse of a 95% chance of being true. The figure .05 is called the p value, indicating the 95 % probability that any selected samples from the study population would give the same results. Therefore, any statistical results obtained from the study having p values greater than .05 were considered statistically insignificant.

3.7.4.3 Criteria for Factor Loadings

In addition to checking the statistical significance of the standardized regression weights, the strength of the regression weights should be reviewed (Hoe, 2008). Standardized regression weights should be greater than .30 to be considered meaningful (Chin, 1998 as cited in Hoe, 2008). Similarly, standardized factor loadings ranging from 0.30 to 0.39 are considered significant; loadings ranging from 0.40 to 0.49 are considered more important, and loadings of 0.50 or greater are considered very significant (Hair et al., 1998 as cited in Hsiu-Yen Hsu, 2009).

Following the parsimony principle that favors simpler theoretical processes over more complex ones (Kline, 2005), and the recommendations by Hair et al. (1998) for factor loadings, a threshold for factor loadings was determined as .50 to simplify the models. Therefore, any indicator having factor loadings lower than .50 was excluded from the models.

3.7.4.4 Reliability

Reliability of the measurement is one of the most important requirements for any survey instrument and in that respect the Cronbach's Alpha coefficient score is one of the most widely used criteria for assessing instruments that contain ordinal data. Cronbach's Alpha score evaluates the extent to which a measurement produces consistent results at different times (Cronbach, 1951).

George and Mallery (2003) define these threshold levels for evaluating alpha coefficients: greater than .9 is excellent, greater than .8 is good, and greater than .7 is acceptable. Kline (2005) and Morgan et al. (2005) state as a general rule of thumb that Cronbach's score

greater than 0.70 indicates that a latent variable has adequate internal consistency. Therefore, a minimum level of .70 was used as the criteria for the reliability analysis for this study.

To check a latent variable's internal consistency, the composite reliability index is suggested by many and was used in this study as the second check of internal consistency of the latent variables. Composite reliability of each latent variable was computed using the formula created by Werts, Linn, and Joreskog in 1974 (DeShon, 1996).This formula simply divides the squared sum of the standardized factor loadings by the squared sum of the standardized factor loadings plus the variance of the error terms. Delmas and Toffel (2005) state that a threshold for composite reliability index greater than 0.70 indicates adequate internal consistency for the latent variable. Therefore, a minimum level of .70 is the criterion for the composite reliability index for this study.

3.7.4.5 Goodness of Fit (GOF) Statistics

The goodness of fit test in SEM determines whether or not the model that we want to test, which was created based on theoretical assumptions, should be accepted. It is important to note that model fit illustrates only the acceptance or rejection of the model developed, not the significance of the path coefficients in the model. After the model acceptance, interpretations of the path coefficients are meaningful. In other words, significant path coefficients have no meaning in poorly fit models (Garson, 2009).

Model fit evaluation in structural equation modeling is not as simple as it is in other statistical analysis in which variables are measured free from error. Since there is no single test

of significance available indicating whether the developed model is consistent with the empirical data obtained, many goodness of fit indices have to be taken into consideration, depending on the type of data in the model, to decide whether the model fits the actual data or not (Schermelleh-Engel et al., 2003). Similarly to the statements of Schermelleh-Engel et al. (2003), Garson (2009) states that there is no consensus about which goodness of fit indexes should be considered for model evaluation, yet reporting all of the indexes should be avoided since that indicates the researcher is on a fishing expedition.

Schermelleh-Engel at al. (2003) assert that only the chi-square test is the significance test used to judge whether the developed model fits the data. Other goodness of fit measures is descriptive in nature, and all of them are classified under three main classes: measures of overall model fit, measures based on model comparisons, and measures of model parsimony. Since the chi-square test is sensitive to sample size and it also violates the multivariate normality assumption (Curran et al., 1996), chi-square test should not be used solely to evaluate model fit (Schermelleh-Engel et al., 2003). The recommended goodness of fit indexes to evaluate the model fit varies (Mueller, 1996; cited in Schermelleh-Engel et al., 2003).

Researchers offer different recommendations for goodness of fit indexes for model evaluation. For example, Kline (1998) recommends chi-square, Normed Fit Index (NFI) or Comperative Fit Index (CFI), Nonnormed Fit Index (NNFI), and Standardized Root Mean Square Residual (SRMR), while Garson (2009) recommends three goodness of fit measures: chi-square, Root Mean Square Error of Approximation (RMSEA), and one of the following baseline fit indexes: NFI, Relative Fit Index (RFI), Incremental Fit Index (IFI), Tucker-Lewis index (TLI,

also known as NNFI), and CFI. Jaccard and Wan (1996) recommend three fit tests; each represents one of the three classifications. Garver and Mentzer (1999) recommend the NNFI, CFI, and RMSEA for model evaluation.

Goodness of Fit Index (GFI), and Adjusted Goodness of Fit Index (AGFI) are no longer preferred for model evaluation, since they are likely to underestimate the fit of more complex models and also are sensitive to sample size (Steiger, 1989; Hu and Bentler, 1999; Garson, 2009).

Schermelleh-Engel et al. (2003) recommend following goodness of fit criteria, which are generally cited by many scholars for model evaluation, stating:

> The following criteria form an adequate selection of indices which are frequently presented in current publications: $\chi 2$ and its associated p value, $\chi 2$/df, RMSEA and its associated confidence interval, SRMR, NNFI, and CFI. The fit indices RMSEA, NNFI and CFI are sensitive to model misspecifications and do not depend on sample size as strongly as χ_2 (Fan, Thompson, and Wang, 1999; Hu and Bentler, 1998; Rigdon, 1996), therefore they should always be considered (p. 51).

Following the recommendations of Schermelleh-Engel et al. (2003) and Garson (2009) for selecting goodness of fit indexes for model evaluation, the study's selected goodness of fit indexes and their cut-off values are as follows;

3.7.4.5.1 Chi-square and its associated p value

The most commonly used goodness of fit statistic is Chi-square goodness of fit. It is used to evaluate the appropriateness of the developed model. Basically, chi-square statistics test the null hypothesis that the model's covariance matrix is equal to the population covariance matrix.

It is generally expected not to reject the null hypothesis and to have a small chi-square value, since this implies that the population covariance matrix and the model's implied covariance matrix are not significantly different from one another. Therefore, researchers are interested in getting an insignificant chi-square p value. If the p value associated with the chi-square value is smaller than .05, the null hypothesis is rejected, meaning that the developed model is significantly different from the population covariance matrix (Schermelleh-Engel et al., 2003). In other words, in order for the model to be compatible with the population matrix, the p value associated with the chi-square value must be greater than .05.

Using Chi-square test only for model evaluation might be misleading because it is highly sensitive to sample size. The larger the sample size, the more likely it is to find significant difference between the observed and the perfectly fit model even though these differences are very small (Schermelleh-Engel et al., 2003; Garson, 2009). As a rule of thumb, the significance of the chi-square statistics can be discarded when the sample size is over 200 and other goodness of fit statistics show good fit (Garson, 2009).

3.7.4.5.2 The ratio of Chi-square to Degree of Freedom

Because of the sensitivity of chi-square to sample size, chi-square / degree of freedom, also known as relative chi-square or normative chi-square, is recommended to make the chi-square of the developed model less dependent on sample size (Garson, 2009). Schermelleh-Engel et al. (2003) explain the logic behind relative chi-square:

> Jöreskog and Sörbom (1993) even suggest to use $\chi 2$ not as a formal test statistic but rather as a descriptive goodness-of-fit index. They propose to compare the magnitude of $\chi 2$ with the expected value of the sample distribution, i.e., the number of degrees of freedom, as E ($\chi 2$) = DF. For a good model fit, the ratio $\chi 2$/df should be as small as possible (p. 33).

Although there is no absolute standard for chi-square / degree of ratio for the model to be considered to have good or acceptable fit, some convention standards are recommended by different scholars. Kline (1998) recommends a ratio of 3 or less than 3 as acceptable. Ullman (2001) recommends 2 or less than 2 for relative chi-square for adequate model fit. Some scholars state that the ratio of chi square to degree of freedom (χ^2/ DF) should be lower than 4 for the developed model to have acceptable fit (Wan, 2002; Kline, 2005).

3.7.4.5.3 Root Mean Square Error of Approximation (RMSEA)

Root Mean Square Error of Approximation (RMSEA) has been cited by many scholars who use the SEM as one of the best performing goodness of fit indexes to evaluate the model (McDonald and Ho, 2002; Marsh et al., 2005). Instead of testing the null hypothesis stating that population variance matches to the variance implied by the developed model, which is more likely be rejected when the sample size is sufficiently large, RMSEA allows researchers to test the null hypothesis approximately rather than exactly (Browne and Cudeck, 1993; Kaplan, 2000).

Schermelleh-Engel et al. (2003) define RMSEA as "The Root Mean Square Error of Approximation (RMSEA; Steiger, 1990) is a measure of approximate fit in the population and is therefore concerned with the discrepancy due to approximation" (p. 36).

In terms of the cut-off values for RMSEA, .05 or lower is recommended as the convention threshold for RMSEA as a sign of good model fit (Browne and Cudeck, 1993; Wan, 2002; Schumacker and Lomax, 2004; Garson, 2009). RMSEA values between .05 and .08 also are considered acceptable for model fit (Wan, 2002; Schermelleh-Engel et al., 2003). Hu and Bentler (1999) recommend .06 as a cut-off value for RMSEA for good model fit.

Illustrating the value of PCLOSE with RMSEA is also important, since PCLOSE tests the null hypothesis that the value of RMSEA is.05, indicating a close fit model. Therefore, the value of PCLOSE associated with RMSEA should be greater than .05 to ensure a close fit (Garson, 2009).

3.7.4.5.4. Tucker-Lewis index (TLI)

TLI, also known as NNFI, is a goodness of fit index that compares null model fit with proposed model fit by taking the degrees of freedom of both models into account. TLI is therefore considered to be one of the goodness of fit indexes that are less affected by sample size; for this reason it is highly recommended for model evaluation (Hoe, 2003; Garson, 2009).

The value of TLI ranges from 0 to1, but TLI is sometimes not normed; its corresponding value may leave the range mentioned above. The values close to 1 indicate the better fit. The higher the values, the better the model fit. As a rule of thumb for cut-off value for TLI, Schermelleh-Engel et al. (2003) recommend .97 as a sign of good model fit, while .95 is considered acceptable. TLI value greater than .95 has been suggested as the cut-off value for good model fit by Hu and Bentler (1999), and Schumacker and Lomax (2004). Hoe (2003)

proposes .90 or greater than .90 as an acceptable threshold value for TLI. The consensus is that TLI value lower than .90 is a sign of the need to re-specify the model (Garson, 2009).

3.7.4.5.5 Comparative Fit Index (CFI)

CFI, also known as Bentler Comparative Fit Index, one of the goodness of fit measures that are affected by sample size is developed to compare the null model fit with the proposed model fit under the assumption that the latent variables and the indicator variables are uncorrelated in the null model (Garson, 2009). Schermelleh-Engel et al. (2003) emphasize one of the advantages of CFI:

> The Comparative Fit Index (CFI; Bentler, 1990), an adjusted version of the Relative Noncentrality Index (RNI) developed by McDonald and Marsh (1990), avoids the underestimation of fit often noted in small samples for Bentler and Bonett's (1980) normed fit index (NFI) (p. 41).

Garson (2009) states as a rule of thumb that the value of CFI should be greater than .90 in order for the model to be accepted. A CFI value of .90 illustrates that 90% of the covariation in the actual data are reproducible by the proposed model. Schermelleh-Engel et al. (2003) recommend the value of .97 as an indicator of good model fit and consider .95 an adequate model fit. Others authors assert that CFI values above .95 values show good fit and those between .90 and .95 are acceptable (Hu and Bentler, 1999; Schreiber, Stage, King, Nora, and Barlow, 2006).

3.7.4.5.6 Standardized Root Mean Square Residual (SRMR)

SRMR calculates the average standardized difference between the predicted and the observed model covariance by taking the standardized residuals into account. While a SRMR value of zero indicates perfect fit, it has a tendency to be smaller as sample size and the number of parameters in the model increase (Garson, 2009).

Schermelleh-Engel et al. (2003) emphasize the importance of taking the residuals' signs into account when interpreting the model evaluation:

> As the RMR and the SRMR are overall measures based on squared residuals, they can give no information about the directions of discrepancies between S and Σ (θˆ). In a residual analysis, regardless of whether unstandardized or standardized residuals are used and which kind of standardization is preferred, it is important to take the sign of a residual into account when looking for the cause of model misfit. Given that an empirical covariance is positive, a positive residual indicates that the model underestimates the sample covariance. In this case, the empirical covariance is larger than the model implied covariance. A negative residual indicates that the model overestimates the sample covariance; that is, the empirical covariance is smaller than the model-implied covariance (p.39).

As one of the baseline fit indices, the SRMR value of .08 or less is generally considered to be an indicator of reasonable model fit (Hu and Bentler, 1999; Thompson, 2004). Garson (2009) states that SRMR value less than .05 is widely accepted as a good fit and a value lower than .08 as adequate fit. As for the upper threshold for model fit acceptance, Schermelleh-Engel et al. (2003) state that the SRMR value smaller than .10 can be interpreted as acceptable for model fit.

3.7.4.5.7 Hoelter's Critical N

Hoelter's Critical N is one of the goodness of fit measures developed to test the adequacy of the sample size. It tells, from the data obtained, whether the sample size of the specified model is sufficient or not (Garson, 2009).The generally accepted threshold for Hoelter's Critical N is 200, i.e. sample size is sufficient if Hoelter's N is equal or greater than 200. A value of Hoelter's N under 75 indicates that the sample size of the proposed model is not adequate to evaluate model fit (Wan, 2002; Garson, 2009).

The following table (Table 3) provides the information about goodness of fit indexes selected for this study and their cut-off values for model evaluation, guided by the scholars cited above.

Table 3: Goodness of Fit Index and Cut-off Values

Index	Shorthand	Cut-off Criteria	Author
Chi-square	$\chi 2$	Smaller the better	Schermelleh-Engel et al. (2003); Wan (2002); Garson (2009)
Chi-square associated p value	p	$\geq .05$	Schermelleh-Engel et al. (2003); Wan (2002); Garson (2009)
Chi-square / Degree of Freedom	$\chi 2$ / df	≤ 2 ≤ 3 ≤ 4	Ullman (2001); Kline (1998); Wan (2002); Kline (2005)
Root Mean Square Error of Approximation	RMSEA	$\leq .05$; good $.05 < \text{value} \leq .08$; acceptable	Browne and Cudeck (1993); Wan (2002); Schumacker and Lomax (2004); Garson (2009) Wan (2002); Schermelleh-Engel et al. (2003)
Root Mean Square Error of Approximation associated p value	PCLOSE	$\geq .05$	Garson (2009)
Tucker-Lewis Index	TLI	$.90 \leq \text{value} < .95$; acceptable $\geq .95$; good	Hoe (2003); Hu and Bentler (1999); Schumacker and Lomax (2004)
Comparative Fit Index	CFI	$.90 \leq \text{value} < .95$; acceptable $\geq .95$; good	Hu and Bentler (1999); Schreiber, Stage, King, Nora, and Barlow (2006)
Standardized Root Mean Square Residual	SRMR	$\leq .05$; good $.05 < \text{value} \leq .08$; acceptable	Garson (2009); Wan (2002); Hu and Bentler (1999); Thomspson (2004)
Hoelter's Critical N	Hoelter Index	$75 \leq \text{value} < 200$; acceptable ≥ 200 ; good	Wan (2002); Garson (2009); Garson (2009)

In this section, five latent constructs of the study were developed using multiple indicators reflecting different dimensions of the latent variables. According to the theoretical framework of the study, suggesting that stressors in organizations affect the different individual and organizational outcomes such as job satisfaction and burnout and the effect of stressors are mediated by the properties of the people and properties of the situation, structural equation model was developed to examine the structural relationships between exogenous and endogenous variables. Selected demographic variables of the study were also inserted to the structural model to identify their effects on the endogenous variables. Information on data collection, survey instruments and their reliabilities, and criteria for goodness-of-fit statistics to evaluate the model fit were provided. In the following section, results of data analysis, including descriptive statistics, reliability scores for latent constructs, confirmatory factor analysis and structural equation model, and finally hypotheses testing are discussed in detail.

CHAPTER FOUR: FINDINGS

This chapter consists of six subsections: descriptive statistics of the study variables to identify their distributional characteristics, including control variables, by providing frequency tables; correlations between indicators for each latent construct to identify the relationships between them and detect any multicollinearity problem; reliability analysis for both exogenous and endogenous latent variables to illustrate the consistency of the study's survey instrument; confirmatory factor analysis to develop and validate measurement models of the study; and finally structural equation modeling to evaluate the structural relationships between the variables and to evaluate the effects of control variables on endogenous variables.

4.1 Descriptive Statistics

Web-based survey was used to collect the data. Advantages of internet surveys include having no time limitations for participants' access of the survey (Birnbaum, 2004) and its convenient nature for data coding and entry (Bartlett, 2005).

Email with the survey link was sent to 487 TNP members whose email addresses were in the personnel lists obtained from the Department of Personnel. For 243 people who had no email addresses, the hardcopy of the questionnaire was delivered by research assistants in each city in the study, who were designated by the researcher. Due to vacations, sick leave, and other reasons, 36 people were not reached during the survey period. From the initial estimate of 766 TNP employees, a total of 598 people responded to the questionnaire, an approximately 78 % response rate.

One important reason why the response rate was so high may be the use of five contact strategies developed by Dillman (2000). Before receiving a survey, each survey subject received an informative e-mail or letter emphasizing the importance of the study. Then email with the survey link or hardcopy of the questionnaire was sent. Two weeks later, follow-up emails or letters were sent as a way of jogging memories to complete the survey.

Sixty people's responses were excluded from the data for further analysis because they did not complete more than 50% of the survey questions. For 22 people who had completed the majority of the questions but had some responses missing, their missing values were replaced with the mode referring to the most frequent responses of the others. The final dataset of the study comprised 538 responses.

As mentioned in the methodology section, there are several views of the necessary sample size for SEM analysis by different scholars. Since this study followed the recommendation of Bentler and Chou (1987) that 5 cases for each parameter estimate are necessary for appropriate SEM analyses, a minimum sample size of 315 was determined to test the proposed model. With its sample size of 538, this study had an adequate sample size for analysis.

4.1.1 Control Variables

This study has six control variables: education level, rank, tenure, age, gender, and shift type. These control variables were selected on the basis of the literature review, which demonstrated their influence on levels of job satisfaction and burnout, the two important

endogenous variables of the study. Educational level, rank, tenure, and age were grouped as interval level variables, and gender and shift work as dichotomy nominal variables. The following table (Table 4) presents the descriptive statistics of the selected control variables.

Table 4: Frequency Distributions for Control Variables

Variable	Attributes	Frequency	Percent	Cumulative Percent
Education Level	High School	47	8.7	8.7
	Two-year college	196	36.4	45.2
	University	238	44.2	89.4
	Master	45	8.4	97.8
	PhD	12	2.2	100.0
Rank	Police Officer	407	75.7	75.7
	Sergeant	27	5.0	80.7
	Lieutenant	25	4.6	85.3
	Captain	15	2.8	88.1
	Major	56	10.4	98.5
	Superintendent	8	1.5	100.0
Tenure	5 years or less	155	28.8	28.8
	6-10 years	107	19.9	48.7
	11-15 years	158	29.4	78.1
	16-20 years	81	15.1	93.1
	21 years or longer	37	6.9	100.0
Age	25 years old or younger	76	14.1	14.1
	26-30 years old	144	26.8	40.9
	31-35 years old	137	25.5	66.4
	36-40 years old	118	21.9	88.3
	41 years old or older	63	11.7	100.0
Gender	Female	40	7.4	7.4
	Male	498	92.6	100.0
Shift Type	Regular shift work	238	44.2	44.2
	Irregular shift work	300	55.8	100.0

Of the 538 respondents, one hundred and ninety-six people had two-year college degrees, and two hundred and thirty-eight people had bachelor degrees. Cumulatively, these two groups of people account for approximately 81 % of the study participants (36.4 % and 44.2 % respectively). It is worth emphasizing the educational levels of TNP members, since these results illustrate the success of TNP. Since 2001, TNP has required new recruits to complete two-year college degrees to become police officers. Before 2001, simply six or nine months training qualified those with high school diplomas after they passed necessary tests.

In addition to the higher educational baseline for officers, of a two-year college degree, TNP encourages all members to pursue more education by allowing them the opportunity. For example, people who meet the requirements are given written permission to pursue master or doctoral degrees for a specific period. For police officers with high school diplomas and for those with two-year college degree, a special contract was initiated between TNP and Eskisehir Anatolia University for them to obtain two-year college degrees or bachelor degrees online. That only 47 respondents (8.7 %) had high school diplomas, could also be considered a sign of the success of these educational initiatives. Those respondents with Ph.D. degrees are the smallest percentage (2.2 %). For 45 respondents (8.4 %) a master's degree was the highest educational degree completed.

In terms of respondents' rank, 407of the total 538 respondents (75.7 %) were police officers. Ranked officers constituted the remaining 24.3 % of the respondents, of whom 27 were sergeants, 25 lieutenants and 15 captains, respectively 5.0 %, 4.6 %, and 2.8 % of the respondents. Fifty-four respondents listed their rank as major, which is 10.4 % of all respondents.

Due to the low proportion of superintendents relative to other ranks of officers, it is not surprising that only 8 superintendents completed the survey. Another reason could be the superintendents' heavy responsibilities over the work and their subordinates. This group accounts for 1.5 % of the study participants. The distribution of respondents in terms of rank is consistent with the actual rank distribution of TNP.

As to how long the participants had worked in the Turkish National Police, respondents were asked to report their experience in one of five categories: 5 years or less, 6-10 years, 11-15 years, 16-20 years, and 21 years or more. Of the total 538 respondents, the largest group, 158 respondents, had between eleven and fifteen years of service, followed by 155 respondents with five years or less, and 107 respondents with between six and ten years of service. The percentage distributions of these three groups by years of service were 29.4 %, 28.8 %, and 19.9 %, respectively. Eighty-one respondents (15.1 %) reported between sixteen and twenty years of service, and thirty-seven respondents (6.9 %) reported twenty or more years of service. This last was the smallest.

For the distribution of the respondents in terms of age, 144 officers were relatively young, 26-30 years old, and the next largest group, 137, was 31-35 years old. These two groups account for 26.8 % and 25.5 % respectively of study participants. 118 respondents (21.9 %) were ages 36-40, and 76 respondents (14.1 %) were 25 years old or younger. The age group between 41 years or older was the smallest, with 63 respondents (11.7 %).

It is not surprising that the majority of the study participants were male (498; 92.6 %). That result is consistent with the over-representation of male officers in TNP, where female

officers constitute approximately 9 % of the total members of TNP. 40 respondents were female (7.4 %).

For the nature of the work shift, participants were asked to indicate the shift they worked by using four categories commonly used by TNP (12/12, 12/24, 12/36, 8-5 or 9-6). The first two categories were coded as irregular shift work and the last three categories as regular shift work. Shift was dummy coded using irregular shift work as the reference group, to look at the effect of type of shift on the two endogenous variables. Regular shift work was reported by 238 respondents, representing 44.2 % of the total respondents. The proportion of respondents who reported irregular shift work was 55.8 % (300).

The survey was conducted in seven cities, one in each geographical region of Turkey. The cities were selected on the basis of number of personnel: the city with the highest number of police officers in its region was selected to conduct a survey. Istanbul, Ankara, and Izmir are the three biggest cities in Turkey in terms of total population size, over 15 million, over 7 million, and over 4 million respectively. The distribution of respondents in the seven cities is presented in the following table (Table 5).

Table 5: The Frequency Distributions of Respondents by City

Variable	Attribute	Frequency	Percent	Cumulative Percent
City	Istanbul	225	41.8	41.8
	Ankara	140	26.0	67.8
	Izmir	70	13.0	80.9
	Adana	31	5.8	86.6
	Van	17	3.2	89.8
	Diyarbakir	37	6.9	96.7
	Samsun	18	3.3	100.0
	Total	538	100.0	

From Istanbul 225 people participated to the survey, which is 41.8 % of the total respondents. From Ankara and Izmir, the numbers of respondents were 140 (26.0 %) and 70 (13.0 %) respectively. Van and Samsun contributed the smallest portions of respondents: 3.2 % and 3.3 % respectively.

4.1.2 Exogenous Variables

Since this study analyzed the effects of both organizational and operational stress on the well-being of TNP employees, and also the influence of supervisor support as a mediator variable between the occupational stress and well-being relationship, the study has three exogenous variables: organizational stress, operational stress, and supervisor support. Each of these three latent constructs, frequency analysis was conducted separately to discover the distributional characteristics of the data.

4.1.2.1 Organizational Stress

Organizational stress is an exogenous latent variable of the study, designed to measure the organizational attributes of TNP that are sources of stress for employees. Organizational stress was measured by ten items on a five-point Likert response scale ranging from "Strongly Disagree" to "Strongly Agree." The ten items reflect different attributes of organizational stress. Respondents were asked to indicate to what extent they agreed that over the past six months they had encountered each organizational stressor: excessive administrative duties, staff shortage, bureaucratic red tape, and favoritism (applying different rules to different people), etc.

Table 6:The Frequency and Percentage Distributions of Items of Organizational Stress

Indicator	#	Attribute	Frequency	Percent	Cumulative Percent
Favoritism	1	Strongly Disagree	8	1.5	1.5
	2	Disagree	16	3.0	4.5
	3	Neither Disagree or Agree	112	20.8	25.3
	4	Agree	222	41.3	66.5
	5	Strongly Agree	180	33.5	100.0
Excessiveadminduty	1	Strongly Disagree	7	1.3	1.3
	2	Disagree	43	8.0	9.3
	3	Neither Disagree or Agree	155	28.8	38.1
	4	Agree	232	43.1	81.2
	5	Strongly Agree	101	18.8	100.0
Policychange	1	Strongly Disagree	44	8.2	8.2
	2	Disagree	86	16.0	24.2
	3	Neither Disagree or Agree	159	29.6	53.7
	4	Agree	190	35.3	89.0
	5	Strongly Agree	59	11.0	100.0
Staffshortage	1	Strongly Disagree	11	2.0	2.0
	2	Disagree	31	5.8	7.8
	3	Neither Disagree or Agree	102	19.0	26.8
	4	Agree	224	41.6	68.4
	5	Strongly Agree	170	31.6	100.0
Redtape	1	Strongly Disagree	6	1.1	1.1
	2	Disagree	21	3.9	5.0
	3	Neither Disagree or Agree	113	21.0	26.0

Indicator	#	Attribute	Frequency	Percent	Cumulative Percent
	4	Agree	235	43.7	69.7
	5	Strongly Agree	163	30.3	100.0
Feelingpressure	1	Strongly Disagree	14	2.6	2.6
	2	Disagree	29	5.4	8.0
	3	Neither Disagree or Agree	99	18.4	26.4
	4	Agree	195	36.2	62.6
	5	Strongly Agree	201	37.4	100.0
Lackofresources	1	Strongly Disagree	4	.7	.7
	2	Disagree	16	3.0	3.7
	3	Neither Disagree or Agree	104	19.3	23.0
	4	Agree	229	42.6	65.6
	5	Strongly Agree	185	34.4	100.0
Unequalsharing	1	Strongly Disagree	3	.6	.6
	2	Disagree	12	2.2	2.8
	3	Neither Disagree or Agree	82	15.2	18.0
	4	Agree	225	41.8	59.9
	5	Strongly Agree	216	40.1	100.0
Internalinvestigation	1	Strongly Disagree	12	2.2	2.2
	2	Disagree	49	9.1	11.3
	3	Neither Disagree or Agree	174	32.3	43.7
	4	Agree	193	35.9	79.6
	5	Strongly Agree	110	20.4	100.0
Dealingwithcourt	1	Strongly Disagree	21	3.9	3.9
	2	Disagree	90	16.7	20.6
	3	Neither Disagree or Agree	212	39.4	60.0
	4	Agree	141	26.2	86.2
	5	Strongly Agree	74	13.8	100.0

Table 6 shows that the majority of the respondents agreed or strongly agreed that the organizational attributes listed there are sources of stress for them. For the item favoritism, which means applying different rules to different people, the cumulative percentage of the respondents who either agreed or strongly agreed is 74.8 %. Only 6 % of the respondents stated that favoritism did not cause stress for them. The majority of the respondents (61.9 %) either agreed or strongly agreed that the item *excessiveadminduty*, which was designed to measure the effects

of excessive administrative duties, was a source of stress. The total number of respondents who either agreed or strongly agreed with the indicator *policychange* is 249 (46.3 %), and 29.6 % of the respondents indicated somewhat agreeing for this item. The fourth item, *staffshortage,* was designed to assess whether respondents felt that staff shortage in the workplace caused stress for them. For that statement 394 respondents either strongly agreed or agreed, with a cumulative percentage of 73.2. A similar pattern was found for the item *redtape:* 74 % of the respondents either agreed or strongly agreed that red tape was among the organizational stress factors, while only 5 % of the respondents did not view it. For the *feelingpressure* indicator of organizational stress, the statement offered was "*Perceived pressure to volunteer free time has caused stress over the past six months*." The majority of respondents indicated their agreement with this item, with the percentages who agreed or who strongly agreed being 36.2 % and 37.4 % respectively. For the item *(lackofresources),* which was designed to measure the effects of lack of resources as an organizational stress factor on the employees, 414 respondents either agreed or strongly agreed, with a with a cumulative percentage of 77 %. One hundred and four respondents (19.3 %) neither disagreed nor agreed with this item. Of the ten items, the item *unequalsharing* is the one identified as a source of stress by the highest number of people, 441, with a cumulative percentage of 81.9 either agreeing or strongly agreeing. Only 2.8 % of respondents (15) either disagreed or strongly disagreed. The ninth item of the organizational stress constructs, *internalinvestigation,* aimed to measure to what extent respondent perceived internal investigation as a source of stress. This indicator was either agreed or strongly agreed with 303 respondents, at 35.9 % and 20.4 % respectively. Of the total respondents, 174 respondents (32.3 %) were not sure, and 61 respondents disagreed or strongly disagreed with it, with a cumulative

percentage of 11.3. The last indicator, *dealingwithcourt*, was developed to measure the extent to which dealing with court-related activities as part of their jobs caused stress for the TNP employees. The number of respondents who reported that they either agreed or strongly agreed with this statement is 215 (40 %). This indicator was either disagreed or strongly disagreed with by 111 respondents (16.7 % and 3.9 % respectively).

Overall, the interpretation of the results for organizational stress factors reveal that the majority of study respondents (over 50 % for most items) thought that the organizational attributes studied did cause stress.

4.1.2.2 Operational Stress

Ten items were used to measure the operational stress experienced by police officers of TNP over the past six months, on a five-point Likert scale (Strongly Disagree, Disagree, Neither Agree or Disagree, Agree, Strongly Agree). As opposed to organizational stressors, all the items reflect aspects of police work inherent in the occupation, such as exposure to traumatic events, type of shift work, overtime demands, etc. The frequency and percentage distributions of items operational stress are shown in table 7.

Table 7: The Frequency and Percentage Distributions of Items of Operational Stress

Indicator	#	Attribute	Frequency	Percent	Cumulative Percent
Shiftwork	1	Strongly Disagree	41	7.6	7.6
	2	Disagree	184	34.2	41.8
	3	Neither Disagree or Agree	183	34.0	75.8
	4	Agree	89	16.5	92.4
	5	Strongly Agree	41	7.6	100.0
Overtimedemands	1	Strongly Disagree	7	1.3	1.3
	2	Disagree	35	6.5	7.8
	3	Neither Disagree or Agree	126	23.4	31.2
	4	Agree	191	35.5	66.7
	5	Strongly Agree	179	33.3	100.0
Riskofinjured	1	Strongly Disagree	45	8.4	8.4
	2	Disagree	162	30.1	38.5
	3	Neither Disagree or Agree	182	33.8	72.3
	4	Agree	111	20.6	92.9
	5	Strongly Agree	38	7.1	100.0
Traumaticevents	1	Strongly Disagree	45	8.4	8.4
	2	Disagree	134	24.9	33.3
	3	Neither Disagree or Agree	176	32.7	66.0
	4	Agree	129	24.0	90.0
	5	Strongly Agree	54	10.0	100.0
Sociallifemanagement	1	Strongly Disagree	9	1.7	1.7
	2	Disagree	23	4.3	5.9
	3	Neither Disagree or Agree	155	28.8	34.8
	4	Agree	180	33.5	68.2
	5	Strongly Agree	171	31.8	100.0
Healthproblems	1	Strongly Disagree	9	1.7	1.7
	2	Disagree	42	7.8	9.5
	3	Neither Disagree or Agree	185	34.4	43.9
	4	Agree	201	37.4	81.2
	5	Strongly Agree	101	18.8	100.0
Physicalfit	1	Strongly Disagree	11	2.0	2.0
	2	Disagree	27	5.0	7.1
	3	Neither Disagree or Agree	160	29.7	36.8

Indicator	#	Attribute	Frequency	Percent	Cumulative Percent
	4	Agree	204	37.9	74.7
	5	Strongly Agree	136	25.3	100.0
Lackofunderstanding	1	Strongly Disagree	13	2.4	2.4
	2	Disagree	54	10.0	12.5
	3	Neither Disagree or Agree	161	29.9	42.4
	4	Agree	189	35.1	77.5
	5	Strongly Agree	121	22.5	100.0
Negativepubliccomment	1	Strongly Disagree	12	2.2	2.2
	2	Disagree	44	8.2	10.4
	3	Neither Disagree or Agree	161	29.9	40.3
	4	Agree	183	34.0	74.3
	5	Strongly Agree	138	25.7	100.0
Alwaysonjob	1	Strongly Disagree	14	2.6	2.6
	2	Disagree	54	10.0	12.6
	3	Neither Disagree or Agree	177	32.9	45.5
	4	Agree	193	35.9	81.4
	5	Strongly Agree	100	18.6	100.0

The first indicator, *shiftwork*, was included to measure the extent to which the type of shift work causes stress for the employees of TNP. The number of respondents who either strongly disagreed or disagreed with this indicator is 225, with a cumulative percentage of 41.8. The number of respondents who stated that shift work was a source of stress was 130, with a cumulative percentage of 24.1 (Agree, 16.5 %; Strongly Agree, 7.6 %). 183 respondents (34 %) indicated that they were not sure about this item. A majority of the respondents (370) agreed with the item *overtimedemands*. The cumulative percentage of those who either agreed or strongly agreed that overtime demands caused stress over the past six months is 68.8 (35.5 % and 33.3 respectively). Only 42 respondents either disagreed or strongly disagreed with this

statement, with percentages of 6.5 and 1.3 respectively. The interpretation of the first two indicators suggest that one of the important problems of TNP, shift work, has begun to be solved to some extent, but that overtime demands remain a significance problem for TNP employees. A similar pattern was observed for the items *riskofinjurry* and *traumaticevents.* While the item *riskofinjury* was either strongly disagreed or disagreed with by 207, for a cumulative percentage of 38.5, the cumulative percentage of respondents who either strongly disagreed or disagreed with the item *traumaticevents* is 33.3. The number of respondents who either agreed or strongly agreed with the item *riskofinjured* is 149 (20.6 % and 7.1 % respectively). The number of respondents who either agreed or strongly agreed with the item *traumaticevents* is 183, for a cumulative percentage of 34. One hundred eighty-two (33.8 %) and 176 (32.7 %) respondents, respectively were not sure about the *riskofinjury* and *traumaticevents* items. The item *sociallifemanagement* was designed to measure the extent to which the employees of TNP had difficulties managing social life outside the job, with consequent stress. The total numbers of respondents who either agreed or strongly agreed with this item is 351; 155 respondents were not sure about this item and only 32 respondents indicated disagreement. For the item *healthproblems* respondents were asked to respond to the statement that occupation-related health problems cause stress; 201 respondents agreed and 101 respondents strongly agreed. The cumulative percentage of those agreeing is 56.2 %. For the item physicalfit the indicator statement: "*Not finding time to stay in good physical condition has caused stress over the past six months."* Most of the respondents (63.2 %) agreed with this item; 29.7 % were not sure about the item. The majority of respondents agreed with the statements for *lackofunderstanding* (57.6 %) and *negativepubliccomment* (59.7). These results indicate that more than half of the

respondents believe that they suffer a lack of understanding from their families and friends and negative public comments about the job of policing, causing them stress. The last item, *alwaysonjob*, was used to measure a prevalent characteristic of policing, which is having a constant feeling of being always on the job. For this item, 293 respondents either agreed or strongly agreed, constituting a cumulative percentage of 54.5 %. The number of people who were not sure about this item is 177 (32.9 %). Only 12.6 percent of respondents indicated disagreement with this item.

4.1.2.3 Supervisor Support

Supervisor support is an exogenous latent construct (mediator variable) that was measured by seven indicators: concern for the welfare of subordinates, paying attention to subordinates' statements, being helpful in getting the job done, success in getting people to work together, giving credit for the things well done, criticizing small things (reverse item), backing up if there is a problem. Respondents were asked to respond to items describing those characteristics of supervisors. Responses used a five-point Likert scale ranging from "Strongly Disagree" to "Strongly Agree."

Table 8: The Frequency and Percentage Distributions of Items of Supervisor Support

Indicator	#	Attribute	Frequency	Percent	Cumulative Percent
Welfare	1	Strongly Disagree	106.0	19.7	19.7
	2	Disagree	243.0	45.2	64.9
	3	Neither Disagree or Agree	138.0	25.7	90.5
	4	Agree	38.0	7.1	97.6
	5	Strongly Agree	13.0	2.4	100.0
Payattention	1	Strongly Disagree	81.0	15.1	15.1

Indicator	#	Attribute	Frequency	Percent	Cumulative Percent
	2	Disagree	205.0	38.1	53.2
	3	Neither Disagree or Agree	186.0	34.6	87.7
	4	Agree	51.0	9.5	97.2
	5	Strongly Agree	15.0	2.8	100.0
Getjobdone	1	Strongly Disagree	96.0	17.8	17.8
	2	Disagree	221.0	41.1	58.9
	3	Neither Disagree or Agree	144.0	26.8	85.7
	4	Agree	64.0	11.9	97.6
	5	Strongly Agree	13.0	2.4	100.0
Worktogether	1	Strongly Disagree	94.0	17.5	17.5
	2	Disagree	215.0	40.0	57.4
	3	Neither Disagree or Agree	162.0	30.1	87.5
	4	Agree	54.0	10.0	97.6
	5	Strongly Agree	13.0	2.4	100.0
Creditforwell	1	Strongly Disagree	103.0	19.1	19.1
	2	Disagree	211.0	39.2	58.4
	3	Neither Disagree or Agree	158.0	29.4	87.7
	4	Agree	51.0	9.5	97.2
	5	Strongly Agree	15.0	2.8	100.0
Criticize	1	Strongly Disagree	88.0	16.4	16.4
	2	Disagree	189.0	35.1	51.5
	3	Neither Disagree or Agree	163.0	30.3	81.8
	4	Agree	88.0	16.4	98.1
	5	Strongly Agree	10.0	1.9	100.0
Backup	1	Strongly Disagree	92.0	17.1	17.1
	2	Disagree	229.0	42.6	59.7
	3	Neither Disagree or Agree	142.0	26.4	86.1
	4	Agree	57.0	10.6	96.7
	5	Strongly Agree	18.0	3.3	100.0

Table 8, the Frequency and Percentage Distributions of Items of Supervisor Support, shows that approximately 30 % of respondents were not sure about each of the supervisor support indicators. The first item, *welfare*, measured the extent to which the supervisor shows concern about the welfare of subordinates. Three hundred forty-nine respondents disagreed with that description of their supervisors, for a cumulative percentage of 64.9. Only 9.5 % of the respondents agreed that the supervisor showed concern for the welfare of employees. The second indicator assessed the supervisor's paying attention (*payattention*) to what subordinates were sayings. Of the total 538 respondents, 205 respondents reported disagreement and 81 respondents reported strong disagreement with this item, for a cumulative percentage of 53.2 %. 66 of the respondents (12.3 %) either agreed or strongly agreed with this item. The third item, *getjobdone*, measured the extent to which supervisors are helpful in getting the job done. A large group of respondents (58.9 %) disagreed or strongly disagreed that their supervisors were helpful. While 144 respondents were not sure about this item, only 77 respondents (cumulative percentage of 14.3 %) agreed that supervisors help get the job done. The fourth item, *worktogether*, was designed to measure the views of respondents about their supervisors' skill in getting people to work together. One hundred sixty-two respondents (30.19 %) neither agreed nor disagreed about the item; the cumulative percentage of respondents who either strongly agreed or agreed with it is 12.4 %, and the cumulative number of respondents who either disagreed or strongly disagreed is 309 (57.4 %). Those results indicate obvious disagreement whether supervisors succeed in getting people to work together. Respondents were asked to agree or disagree that supervisors give credit for things well done (*creditforwell*). The percentage pattern for this item is very similar to those for other indicators. More than 58 % of the respondents either strongly disagreed

or disagreed with the statement that their supervisors give credit for work well done; only 66 respondents agreed or strongly agreed about this indicator (cumulative percentage of 12.3 %). The sixth indicator, *criticize*, was included as a reverse item measuring agreement or not that respondents are criticized for small things by their supervisors. This item was either strongly disagreed or disagreed with by more than half of the respondents (51.5 %), indicating a low level of criticism by supervisors for small things; 163 (30.3 %) respondents were not sure about the item. For the last indicator of supervisor support, *backup*, the item was a statement that supervisors back up when there is a problem, to which 321 respondents (59.7 %) either disagreed or strongly disagreed. The number of respondents who either agreed or strongly agreed with this statement is 75, with a cumulative percentage of 13.9. The remaining 142 respondents (26.4 %) were not sure about the item.

4.1.3 Endogenous Variables

Job satisfaction and work-related burnout are the endogenous latent variables of the study. Job satisfaction was measured by nine indicators from Karasek's Job Content Survey (Karasek et al., 1985). Work-related burnout was measured by seven indicators derived from the Copenhagen Burnout Inventory (CBI). Frequency analysis was conducted for each latent construct to explain the distributional characteristics of the indicators.

4.1.3.1 Job satisfaction

Nine items were presented for respondents'' agreement or disagreement, to measure the satisfaction levels of TNP members with their job. Respondents were asked to indicate whether they agreed or disagreed with the nine statements about aspects of the job, using a five-point

Likert response scale ranging from “Strongly Disagree” to “Strongly Agree.” The nine aspects are: pay, promotion, supervision, benefits, contingent rewards, operating procedures and policies, relationships with coworkers, nature of work, and communication level within the organization.

Table 9: The Frequency and Percentage Distributions of Job Satisfaction Aspects

Indicator	#	Attribute	Frequency	Percent	Cumulative Percent
Pay	1	Strongly Disagree	109	20.3	20.3
	2	Disagree	217	40.3	60.6
	3	Neither Disagree or Agree	122	22.7	83.3
	4	Agree	69	12.8	96.1
	5	Strongly Agree	21	3.9	100.0
Supervisor	1	Strongly Disagree	86	16.0	16.0
	2	Disagree	243	45.2	61.2
	3	Neither Disagree or Agree	130	24.2	85.3
	4	Agree	58	10.8	96.1
	5	Strongly Agree	21	3.9	100.0
Contingentrewards	1	Strongly Disagree	147	27.3	27.3
	2	Disagree	235	43.7	71.0
	3	Neither Disagree or Agree	107	19.9	90.9
	4	Agree	36	6.7	97.6
	5	Strongly Agree	13	2.4	100.0
Coworkers	1	Strongly Disagree	94	17.5	17.5
	2	Disagree	161	29.9	47.4
	3	Neither Disagree or Agree	132	24.5	71.9
	4	Agree	103	19.1	91.1
	5	Strongly Agree	48	8.9	100.0
Communication	1	Strongly Disagree	126	23.4	23.4
	2	Disagree	212	39.4	62.8
	3	Neither Disagree or Agree	131	24.3	87.2
	4	Agree	54	10.0	97.2
	5	Strongly Agree	15	2.8	100.0
Benefits	1	Strongly Disagree	177	32.9	32.9
	2	Disagree	199	37.0	69.9
	3	Neither Disagree or Agree	111	20.6	90.5
	4	Agree	39	7.2	97.8
	5	Strongly Agree	12	2.2	100.0
Natureofwork	1	Strongly Disagree	87	16.2	16.2

Indicator	#	Attribute	Frequency	Percent	Cumulative Percent
	2	Disagree	191	35.5	51.7
	3	Neither Disagree or Agree	135	25.1	76.8
	4	Agree	91	16.9	93.7
	5	Strongly Agree	34	6.3	100.0
Operatingprocedures	1	Strongly Disagree	90	16.7	16.7
	2	Disagree	219	40.7	57.4
	3	Neither Disagree or Agree	142	26.4	83.8
	4	Agree	68	12.6	96.5
	5	Strongly Agree	19	3.5	100.0
Promotion	1	Strongly Disagree	158	29.4	29.4
	2	Disagree	219	40.7	70.1
	3	Neither Disagree or Agree	102	19.0	89.0
	4	Agree	41	7.6	96.7
	5	Strongly Agree	18	3.3	100.0

The results presented in Table 9 show that the majority of the respondents disagreed with each statement of job satisfaction. For all statements the cumulative percentages of respondents who either disagreed or strongly disagreed are higher than 50 %. The results clearly indicate TNP employees' dissatisfaction with their jobs. For example, for the first item, *pay*, respondents were asked to agree or disagree with a statement of satisfaction with their pay, and 60.6 % strongly disagreed or disagreed. Only 16.7 % of respondents agreed that pay was satisfactory. A related o item, *contingentrewards,* measured agreement that respondents received recognition for doing a good. More than 70 % of respondents disagreed with this item. The cumulative percentage of the respondents who either disagreed or strongly disagreed with the *benefits* statement: "The benefits we receive are as good as most other organizations offer." was 69.9 %. Only 51 respondents either agreed (7.29 %) or strongly agreed (2.29 %) with this statement. The indicator *natureofwork* was designed to assess the perceptions of TNP employees about the tasks

they do at work. Respondents were asked to indicate agreement or disagreement with a statement about liking what they do at work. For that statement, 278 respondents either disagreed or strongly disagreed, constituting a cumulative percentage of 51.7 %. Among the other approximately half of the respondents, 25 % reported only natural response, and 23.2 % of the respondents reported agreement.

4.1.3.2 Work-related Burnout

Work-related burnout is the other endogenous variable of the study. The Copenhagen Burnout Inventory (CBI), developed by Kristensen, Borritz, Villadsen, and Chritensen (2005), was selected to measure the latent construct, since CBI's three scales are designed for the use in different domains, with one specifically designed to measure work-related burnout. Seven survey items measured the burnout levels of TNP members as related to their jobs. Respondents were asked to assess their physical and psychological fatigue as related to their work on a five-point Likert scale (Strongly Disagree, Disagree, Neither Disagree or Agree, Agree, Strongly Agree).

Table 10: The Frequency and Percentage Distributions of Items of Work-related Burnout

Indicator	#	Attribute	Frequency	Percent	Cumulative Percent
Emotionalexhaustion	1	Strongly Disagree	33	6.1	6.1
	2	Disagree	134	24.9	31.0
	3	Neither Disagree or Agree	208	38.7	69.7
	4	Agree	126	23.4	93.1
	5	Strongly Agree	37	6.9	100.0
Burnout	1	Strongly Disagree	24	4.5	4.5
	2	Disagree	95	17.7	22.1
	3	Neither Disagree or Agree	206	38.3	60.4
	4	Agree	166	30.9	91.3
	5	Strongly Agree	47	8.7	100.0

Indicator	#	Attribute	Frequency	Percent	Cumulative Percent
Frustration	1	Strongly Disagree	33	6.1	6.1
	2	Disagree	96	17.8	23.9
	3	Neither Disagree or Agree	202	37.5	61.5
	4	Agree	164	30.5	92.0
	5	Strongly Agree	43	8.0	100.0
Wornout	1	Strongly Disagree	3	.6	.6
	2	Disagree	48	8.9	9.5
	3	Neither Disagree or Agree	207	38.5	48.0
	4	Agree	206	38.3	86.2
	5	Strongly Agree	74	13.8	100.0
Anotherday	1	Strongly Disagree	20	3.7	3.7
	2	Disagree	91	16.9	20.6
	3	Neither Disagree or Agree	172	32.0	52.6
	4	Agree	189	35.1	87.7
	5	Strongly Agree	66	12.3	100.0
Tiringworkinghour	1	Strongly Disagree	22	4.1	4.1
	2	Disagree	114	21.2	25.3
	3	Neither Disagree or Agree	165	30.7	55.9
	4	Agree	175	32.5	88.5
	5	Strongly Agree	62	11.5	100.0
Noenergy	1	Strongly Disagree	9	1.7	1.7
	2	Disagree	65	12.1	13.8
	3	Neither Disagree or Agree	172	32.0	45.7
	4	Agree	199	37.0	82.7
	5	Strongly Agree	93	17.3	100.0

The majority of the respondents reported their agreement with all the statements used as indicators of the work-related burnout latent construct except for the first indicator, *emotionalexhaustion*. The indicator *emotionalexhaustion*, measuring whether the work is emotionally exhausting, has a cumulative percentage of respondents (30.3 %) either agreeing or strongly agreeing with that is very close to the cumulative percentage (31 %) of respondents who either disagreed or strongly disagreed with the statement. For the indicator *burnout*, respondents were asked to express agreement or not with the statement that they felt burnout because of their

work, 213 (39.6 %) either agreed or strongly agreed; 119 respondents (22.2 %) either disagreed or strongly disagreed. The statement for the third indicator, *frustration*, described frustration with TNP work. Of the total 538 respondents, 207 (38.5 %) agreed or agreed strongly that work frustrated them, and 129 respondents (23.9 %) either disagreed or strongly disagreed with that statement. The *wornout* indicator is a statement that TNP employee felt worn out at the end of the working day. More than 50 % of respondents (280) either agreed or strongly agreed with the statement. Moreover, the cumulative percentage of respondents who either strongly disagreed or disagreed is less than 10 %. The remaining 38.5 % of the respondents expressed neutrality for this item. For the indicator *anotherday*, the statement of which is "I am exhausted in the morning at the thought of another day at work," 255 respondents either agreed or strongly agreed with a cumulative percentage of 47.4, or almost half of the respondents. The number of respondents who either disagreed or strongly disagreed with another day statement is 111, for a cumulative percentage of 20.6. The sixth indicator, *tiringworkinghour*, is a statement that every working hour was tiring; the cumulative percentage (44 %) of respondents who agreed with this item is approximately twice that of respondents who disagreed (25.37 %). Their cumulative percentages were 44 and 25.3 respectively. The last item (*noenergy*) of this latent construct is represented by the statement that the employee had not enough energy for family and friends during leisure time. Of the 538 respondents, 292 (54.3 %) either agreed or strongly agreed with this item, and 74 either disagreed or strongly disagreed, for a cumulative percentage of 13.8 %. Thus more than half of the respondents did not feel they had enough energy for social interactions after work.

It is interesting to observe that for all the work-related burnout indicators, approximately 35 % of respondents neither agreed nor disagreed with the items. One reason that the unsure

respondents' percentage is so high could be that even with anonymity secured, respondents might have been reluctant to record their actual responses because burnout is a sensitive issue for many.

4.2 Correlations

Correlation analysis was conducted for three purposes in examining the strength and direction of any relationships between variables: first, to investigate the relationships between the control variables; second, to explore how the indicators of each latent construct vary according to control variables; and finally, to evaluate the relationships between the indicators of each latent construct of the study to diagnose any multicollinearity.

The Spearman rho test was used since it is the most appropriate method for correlation analysis of ordinal data. Since .05 is the significance level for this study, any correlations between variables with corresponding p values below .05 were considered statistically significant.

The following table, Table 11, illustrates the correlation matrixes among the control variables of the study.

Table 11: Correlation Matrix for Control Variables

		Education	Rank	Tenure	Age	Gender	Shift
Education	Correlation Coefficient	1.000					
	Sig. (2-tailed)	.					
	N	538					
Rank	Correlation Coefficient	**.558****	1.000				
	Sig. (2-tailed)	.000	.				
	N	538	538				
Tenure	Correlation Coefficient	**-.261****	.050	1.000			
	Sig. (2-tailed)	.000	.245	.			
	N	538	538	538			
Age	Correlation Coefficient	**-.236****	-.006	**.892****	1.000		
	Sig. (2-tailed)	.000	.898	.000	.		
	N	538	538	538	538		
Gender	Correlation Coefficient	.070	.053	**.091***	**.121****	1.000	
	Sig. (2-tailed)	.105	.217	.035	.005	.	
	N	538	538	538	538	538	
Shift	Correlation Coefficient	-.075	**-.105***	.006	.016	**.147****	1.000
	Sig. (2-tailed)	.084	.015	.898	.714	.001	.
	N	538	538	538	538	538	538

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Table 11 shows that, as expected, the highest correlation is between the variables of age and tenure; there is a direct proportionality between these two variables. The second highest correlation was detected between rank and education, with a positive direction. Given the fact that all ranked officers have at least bachelor degrees, the result is not surprising. Negative correlations were found between education and tenure, and education and age (-.261 and -.236 respectively, $p < .01$). Those results were also expected since, as explained in the descriptive analysis section on the educational distributions of respondents, after the year 2001, TNP made

completion of a two-year college degree a new requirement for recruits. Although all police officers are encouraged to increase their education in TNP, older officers who entered TNP with a high school diploma before 2001 might think that there is no need to pursue more education as they are approach retirement age.

According to the correlation matrix table (See Appendix E, Table 26) that illustrates the relationships between the organizational stress indicators and six control variables, only one significant relationship was found: between gender and the indicator *excessiveadminduty* that measured respondents' agreement that excessive duties are stressful. This correlation is positive and significant at $p \leq .05$, with a corresponding value of .096. Since female was coded as a reference group, this result indicates that male police officers find excessive administrative duties to be more stressful than their female counterparts do.

In respect to relationships between the operational stress indicators and control variables, the Correlation Analysis Table (See Appendix E, Table 27) reveals eighteen statistically significant correlations at either .05 or .01 significance levels. All of the correlations are significant in a range of .92 to .267. As expected, there is a significant and positive correlation among the seven indicators of operational stress and work shift, in a range from .161 to .197 ($p < .01$). These seven indicators are: overtime demands, social life management, occupation-related health problems, not finding time to stay in good physical condition, lack of understanding from family and friends, negative public comments, and having the feeling of being always on the job. These correlation statistics indicate that those working irregular shifts perceive those operational factors as more stressful than those working regular shifts do. Negative and significant

correlation between education and overtime demands ($r = -.113$, $p < .01$), indicates that overtime demands are seen to be less stressful as the educational levels of employees increase.

The Correlation Analysis Table (See Appendix E, Table 28) illustrates the relationships between the control variables and the indicators of supervisor support. The results reveal positive and statistically significant relationships between rank and all seven indicators of supervisor support ($p < .01$), although the correlations are low, ranging from .168 to .279. As officers' ranks increase, they perceive higher levels of supervisor support. A similar pattern was detected between the variable education and indicators of supervisor support. All the correlations are significant ($p < .01$) except the correlations between the control variable education and pay attention, and between education and work together. These statistics reveal that more educated people are likely to have more positive perceptions about support by their supervisors.

The interrelationships among the control variables and indicators of job satisfaction reveal some statistical significant correlations, most of them at $p \leq .01$ (See Appendix E, Table 29). All the correlations between education and the nine job satisfaction indicators are significant at $p < .01$ except the correlation between education and pay, which is significant at $p < .05$. The highest correlation is between education and the supervisor indicator ($r = .241$, $p < .01$). The lowest correlation is between education and pay ($r = .092$, $p < .05$). Positive and significant relationships were also found between the control variable rank and all the job satisfaction indicators. All of those correlations are significant, in a range of .136 to .314 ($p < .01$). The assessment of all nine indicators of job satisfaction indicate that as officers' ranks and educational levels increase, they are more likely to be satisfied with their jobs.

A correlation matrix table (See Appendix E, Table 30) was also developed to explore the relationships among the control variables and the indicators of work-related burnout. Rank has significant and negative correlations with six indicators of work-related burnout, but not with the emotional exhaustion indicator. The correlations of rank are as follows: with the burnout indicator ($r=-.161$, $p<.01$), the frustration indicator ($r= -.151$, $p < .01$), the worn-out indicator ($r= -.104$, $p < .05$), the anotherday indicator ($r= -.142$, $p < .01$), the tiring working hour indicator ($r= -.151$, $p < .01$), and the noenergy indicator ($r= -.182$, $p< .01$). The correlations show that as officers' ranks increase, they are less likely to report physical and psychological exhaustion. In contrast to the pattern observed in relationships discussed above between latent constructs and control variables, education does not have significant correlation with work-related burnout indicators except for the frustration indicator ($r= -.098$, $p < .05$), indicating that education level does not have significant influence on the burnout levels of TNP members.

A correlation matrix tables (See Appendix E) was developed for each of the latent constructs of the study to explore the relationships among indicators and to check for any multicollinearity issue.

Multicollinearity is the condition where two or more independent variables are highly correlated one another, in other words, convey the same information and measure essentially the same thing. Various statistical tools have been proposed to diagnose multicollinearity. For example, Kaplan (1994, cited in Grewal et al., 2004) proposes some statistical analysis methods to detect multicollinearity: correlation matrix of the variables, path coefficients' correlation matrix, and variance inflation factors (VIF). This study used correlation matrixes of the

variables, one of Kaplan's (1994) recommendations, to detect any multicollinearity. As noted in the methodology section, high correlation having more than .70 coefficient values (Bachman and Paternoster, 2004; Meyers et al., 2006) among the indicators was set as the study threshold to avoid multicollinearity. The Spearman Rho correlation test was used to detect any multicollinearity among the indicators of each latent construct.

Correlation Matrix of Organizational Stress Table (See Appendix E, Table 31) indicates that all correlations among the indicators are significant and positive as they should be. The highest correlation is between internal investigation and dealing with court indicators ($r = .480$, $p < .01$), and the lowest correlation is between the favoritism indicator and the dealing with court indicator, with a correlation value of .138 ($p < .01$). All remaining correlations values are significant in the range of .446 to .164, indicating no threat of multicollinearity for this latent construct.

Correlation Matrix of Operational Stress Table (See Appendix E, Table 32) also demonstrates significant correlation at $p \leq .01$ for all the indicators, with only one correlation greater than 0.7. That correlation is between the traumatic events and the riskofinjury indicators ($r = .724$, $p < .01$). Since a correlation value of .724 is not much greater than the established threshold value (.70), it was decided to retain all indicators for the operational stress measurement model. However, caution must be required in the final data analysis. All of the remaining correlations are significant, but either low or moderate, in a range of .218 to .665, indicating no issue of multicollinearity for this latent construct.

Correlation Matrix of Supervisor Support Table (See Appendix E, Table 33) indicates that correlations coefficients among the supervisor support indicators are within the normal bounds, ranging from .309 to .669, indicating no concern about multicollinearity in the supervisor support measurement model. All correlations are significant at $p \leq .01$. The highest correlation is between the indicators work together and being helpful in getting job done, and the lowest correlation is between the indicators criticize and pay attention.

Correlation Matrix Table for Job Satisfaction (See Appendix E, Table 34) shows that all correlations among the indicators are significant and positive at $p \leq .01$. Further examination of the indicators of job satisfaction reveals no threat of multicolinearity. The highest correlation is .696 (Operating procedures * Nature of work) and does not exceed the threshold level of .70. This result indicates that people who liked the work they did were more likely to think that the rules and procedures in the organization were designed in a way that helped to make the job easier.

As expected, the Correlation Matrix of Work-related Burnout Table (See Appendix E, Table 35) demonstrates significant correlation at $p \leq .01$ for all the indicators, in a range of .271 to .679, with only two correlations slightly greater than 0.7. These two correlations are between the indicators tiring working hour and another day, and between the indicators frustration and burnout, with correlation coefficient values of .721 and .708 respectively. Since these correlation values are not much greater than the established threshold value (.70), and correlation of .90 or higher is considered the sign of multicollinearity by Kline (2005) and others, it was decided to

retain all indicators of the work-related burnout model, with caution shown in the final data analysis.

4.3 Confirmatory Factor Analysis

Confirmatory factor analysis (CFA) is a statistical technique developed to evaluate the validity of the latent constructs' measurement models (Byrne, 2010). Schumacker and Lomax (2004) explain the purpose of the CFA: "Factor analysis attempts to determine which sets of observed variables share common variance-covariance characteristics that define theoretical constructs or factors (latent variables)" (p. 168).

CFA determines, on the basis of pre-established theory, whether the loadings of directly measured indicators on factors conform to what is anticipated. Indicators of latent constructs are selected on the basis of the established theory, and confirmatory factor analysis tells us whether those indicators load as expected (Garson, 2009). The measurement models were developed and validated for each latent variable through Confirmatory factor analysis (CFA).

As explained in the methodology section, Wan's three-stage approach (2002) was used to develop and validate best measurement models. Since the first stage in developing the measurement model is to check the indicators' appropriateness, the critical ratio of standardized regression weight of each indicator was checked to assess whether or not they were significant. Having critical ratio value equal to +1.96 or higher, and -1.96 or lower illustrates the indicators' significance (Byrne, 2006). Therefore, using the .05 confidence level, insignificant indicators were excluded from the measurement models to obtain valid models. In addition to checking the

critical ratio of standardized regression weight of each indicator, the strength of factor loadings was examined. Since factor loadings between indicators and the latent construct are linear regression coefficients, only indicators having factor loadings equal to or greater than .50 were preserved for each latent construct.

As a second step of CFA, overall model fit was evaluated by looking at the goodness of fit statistics selected using AMOS software, to specify how well the latent construct measurement models fit the data. In the final stage, specification search was performed to find a better fitting model if the fit of the measurement models was not well within acceptable limits. The most commonly used technique for model fit improvement is the modification index (Wan, 2002, Schumacker and Lomax, 2004). Modification indices illustrate the extent to which the value of chi-square decreases when adding certain constraints between variables (Wan, 2002). In the modification indices output table produced by AMOS software, the pair of error terms yielding the largest improvement in the model was selected, one at a time, to improve the specified model fit. After the all measurement models were validated, interpretations about factor loading were made.

This study has five latent variables; two exogenous variables, two endogenous variables, and one mediating variable. Organizational stress and operational stress are the two exogenous latent variables. Job satisfaction and work-related burnout are the endogenous latent variables. Supervisor support is the mediating variable. Measurement models were developed and independently validated for each of the aforementioned latent variables.

4.3.1 Organizational Stress

As explained in the methodology section, the first exogenous variable of this study is organizational stress, which was measured by ten indicators selected from the Organizational Police Stress Questionnaire developed by McCreary and Thompson (2006). For the measurement of organizational stress, respondents were asked to indicate their agreement or disagreement with the statement of each organizational stress factor over the past six months on a five-point Likert scale ranging from "Strongly Disagree" to "Strongly Agree." Confirmatory factor analysis was conducted to develop and validate the measurement model of organizational stress. The generic measurement model of organizational stress is presented in Appendix F (Figure 16).

As a first step of CFA, each indicator's critical ratio of standardized regression weight was checked to identify the significance of factor loadings. CFA results for the measurement model of organizational stress show that all factor loadings are significant at $p \leq .05$. Even though all critical ratios of standardized regression weight were found to be greater than 1.96, the strength of factor loadings was also examined. A factor loading refers to the strength of the association between an indicator and its latent construct (Byrne, 2010). Factor loadings of the indicators Dealingwithcourt, Policychange, Unequalsharing, and Favoritism are below the determined threshold level (.50), with values of .42, .45, .47, .49 respectively. The Removal process was initiated from the lowest factor loading one at a time, since removing one indicator affects the strength of the remaining indicators. Of those four indicators, three: Dealingwithcourt, Policychange, and Unequalsharing were removed from the measurement model of organizational

stress, since the factor loading of favoritism surpassed the established threshold level after three of the indicators were removed. Thus, the indicator Favoritism retained in the model.

Although a better goodness-of-fit result was achieved after removing three indicators from the organizational stress measurement model, goodness-of-fit statistics selected this study did not show acceptable results for model fit. Therefore, specification search was performed to find a better fitting model. Modification index, the most commonly used technique for model fit improvement (Wan, 2002, Schumacker and Lomax, 2004) was used to improve the model fit (decreasing the chi-square value) by having one pair of error terms with the largest improvement in the model, one at a time. One pair of error terms between the indicators Excessiveadminduty and Lackofresources was correlated; after this correlation, the factor loading of favoritism fell below the established threshold level .50. Thus, the indicator favoritism was also excluded from the organizational stress measurement model.

The following figure (Figure 9) illustrates the final revised measurement model for organizational stress, which has six indicators after the four indicators were removed because of low factor loadings.

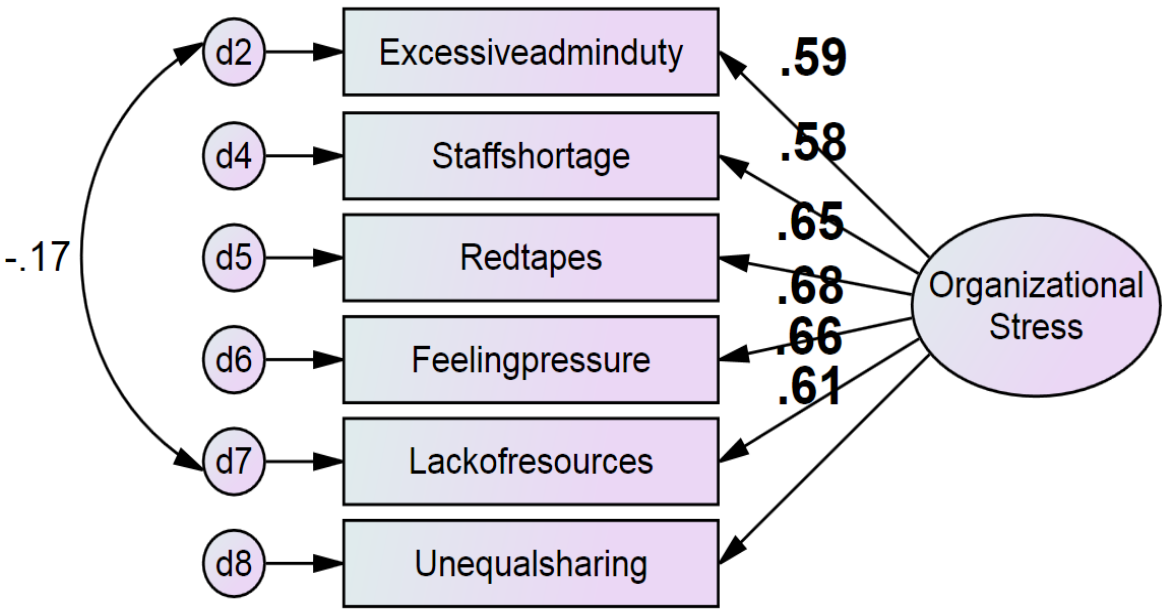


Figure 9: A Revised Measurement Model of Organizational Stress

As discussed in the methodology section, following recommendations of Schermelleh-Engel et al. (2003) and Garson (2009) for the selection of goodness-of-fit indexes for model evaluation, the selected goodness-of-fit statistics for both the generic and the revised models are provided in the following table (Table 12).

Table 12: Goodness-of-Fit Statistics of Organizational Stress

Index	Shorthand	Criteria	Generic Model	Revised Model
Chi-square	$\chi 2$	Smaller the better	163.655	12.506
Chi-square associated p value	p	$\geq .05$	0	0.13
Chi-square / Degree of Freedom	$\chi 2$ / df	≤ 2 ; ≤ 3; ≤ 4	4.676	1.563
Root Mean Square Error of Approximation	RMSEA	$.05 <$ value $\leq .08$; acceptable $\leq .05$; good	0.083	0.032
RMSEA associated p value	PCLOSE	$\geq .05$	0	0.782
Tucker-Lewis Index	TLI	$.90 \leq$ value $< .95$; acceptable $\geq .95$; good	0.868	0.989
Comparative Fit Index	CFI	$.90 \leq$ value $< .95$; acceptable $\geq .95$; good	0.897	0.994
Standardized Root Mean Square Residual	SRMR	$.05 <$ value $\leq .08$; acceptable $\leq .05$; good	0.055	0.02
Hoelter's Critical N	Hoelter Index	$75 \leq$ value < 200; acceptable ≥ 200 ; good	164	666

As seen in Table 12, although the majority of the goodness-of-fit statistics of the generic measurement model of organizational stress are not at the acceptable limits, the revised measurement model of organizational stress demonstrate excellent fit to the obtained data in terms of all the selected goodness-of-fit statistics. Therefore, the revised measurement model of organizational stress was confirmed as the measurement model of organizational stress for further SEM analysis.

Given the fact that goodness-of-fit statistics demonstrate only the acceptance or rejection of the model developed, not the significance of the path coefficients in the model, the acceptance of the organizational stress model as a valid measurement model makes interpretation of the path

coefficients now meaningful. Table 13 presents the parameter estimates for both the generic and the revised measurement models of organizational stress.

Table 13: Parameter Estimates of Organizational Stress

	GENERIC MODEL					REVISED MODEL				
INDICATOR	URW	SRW	SE	CR	P	URW	SRW	SE	CR	P
Dealingwithcourt	0.771	0.424	0.091	8.501	***					
Internalinvestigation	0.817	0.471	0.088	9.333	***					
Unequalsharing	0.876	0.608	0.076	11.596	***	0.866	0.607	0.076	11.39	***
Lackofresources	0.938	0.624	0.079	11.831	***	0.991	0.665	0.084	11.809	***
Feelingpressure	1.184	0.665	0.095	12.42	***	1.204	0.681	0.097	12.428	***
Redtapes	1	0.643				1	0.648			
Staffshortage	0.993	0.584	0.089	11.22	***	0.985	0.585	0.089	11.061	***
Policychange	0.888	0.454	0.098	9.038	***					
Excessiveadminduty	0.961	0.597	0.084	11.415	***	0.939	0.588	0.088	10.681	***
Favoritism	0.778	0.492	0.08	9.696	***					
d7 <--> d2						0.079	0.171	0.025	-3.132	0.002

Note: URW = Unstandardized Regression Weights; SRW = Standardized Regression Weights; SE = Standard Error; CR = Critical Ratio; *** = Correlation is significant at .01 level

Factor loading is the extent to which the indicators are associated with the latent construct (Kline, 2005). In other words, factor loading indicates the strength of the indicators for the latent construct. As seen in Table 13, all factor loadings and correlations between two error terms are statistically significant in both the generic and the revised measurement models. Although the factor loadings of four indicators are significant, they were excluded from the measurement model of organizational stress because they had factor loading lower than the established

threshold value. Standardized factor loadings of six indicators are in a range of .585 to .681, surpassing the threshold level of .50. The indicator *Feelingpressure* has the highest factor loading on the organizational stress latent construct and the indicator *Stafshortage* has the lowest.

4.3.2 Operational Stress

The second exogenous latent variable of this study is operational stress. For the measurement of this latent construct, respondents were asked to indicate their agreements or disagreements about the stress factors inherent in the job over the past six months. The measurement model of operational stress, which includes ten indicators, was examined by CFA to evaluate the validity of the construct. The generic measurement model of operational stress is presented in Appendix F (Figure 17).

Again following the three-stage approach of Wan (2002), the measurement model was validated. Checking the critical ratio of factor loadings is the first step of CFA. In addition to examining the significance of factor loadings by looking at critical ratios, the strength of factor loadings was examined in relation to the established threshold value of .50. Factor loadings having critical ratios greater than 1.96 with positive direction show the statistical significance of all indicators at $p \leq .05$. From the generic measurement model of operational stress (Appendix F, Figure 17), three items; *Shiftwork, Traumaticevents*, and *Riskofinjured* were excluded because of their low factor loadings in relation to the established threshold value. After removing three items from the model, all remaining items' factor loadings were assessed again. All remaining seven items surpassed the threshold value, having factor loadings ranging from .59 to 81and all factor loadings were significant at $p \leq .05$.

To assess the overall model fit, several goodness of fit indices were used, including chi-square ($\chi 2$), chi-square/df ($\chi 2$/df), the root mean square error of approximation (RMSEA), the comparative fit index (CFI), the Tucker-Lewis Index (TLI), the standardized root mean square residual (SRMR), and Hoelter's Critical N. On the basis of these selected goodness-of-fit statistics, the generic measurement model of operational stress was not accepted as a valid measurement model. Hence, modification indices were used to add correlation paths between error terms of the indicators, beginning with the one with the largest improvement in the model, and proceeding one at a time, taking theoretical considerations into account. Six pairs of measurement errors were correlated to achieve a good model fit. Figure 10 illustrates the revised measurement model of operational stress.

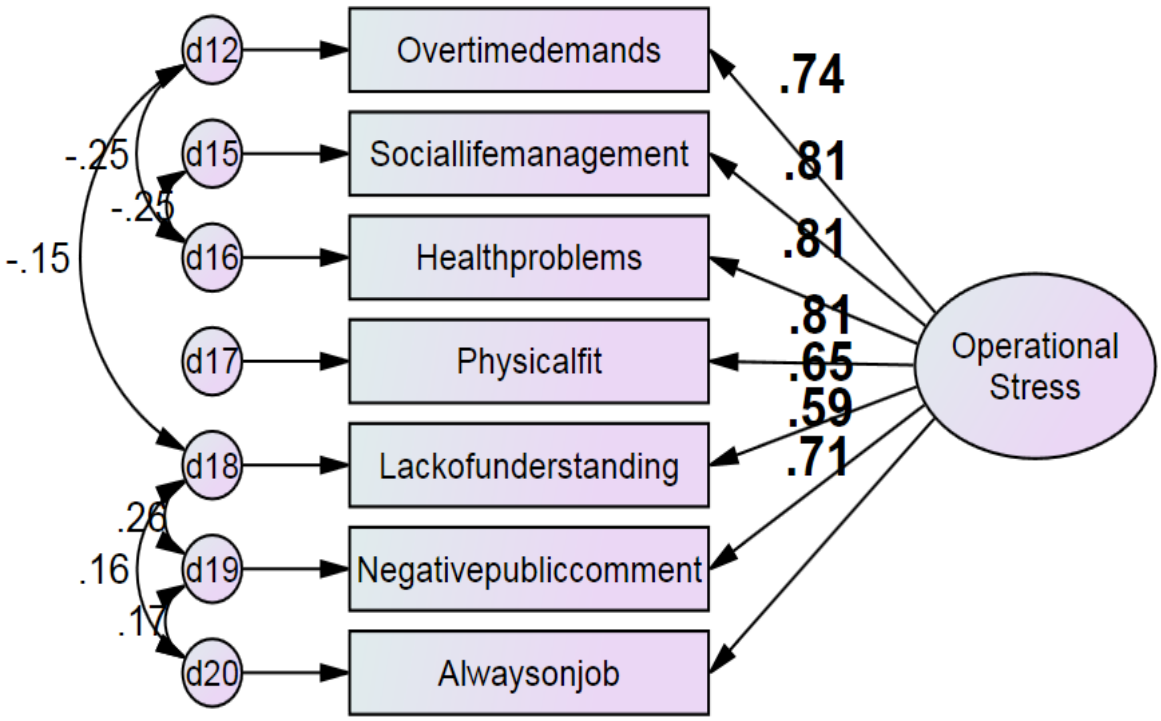


Figure 10: A Revised Measurement Model of Operational Stress

Removing three items with low factor loadings and correlating six pairs of error terms substantially improved the revised model fit as compared to the generic one. Goodness-of-fit statistics for both the generic and the revised models of operational stress are displayed in Table 14.

Table 14: Goodness-of-Fit Statistics of Operational Stress

Index	Shorthand	Criteria	Generic Model	Revised Model
Chi-square	$\chi 2$	Smaller the better	499.22	8.023
Chi-square associated p value	p	$\geq .05$	0	0.431
Chi-square / Degree of Freedom	$\chi 2$ / df	≤ 2 ; ≤ 3; ≤ 4	14.263	1.003
Root Mean Square Error of Approximation	RMSEA	$.05 <$ value $\leq .08$; acceptable $\leq .05$; good	0.157	0.002
RMSEA associated p value	PCLOSE	$\geq .05$	0	0.946
Tucker-Lewis Index	TLI	$.90 \leq$ value $< .95$; acceptable $\geq .95$; good	0.765	1
Comparative Fit Index	CFI	$.90 \leq$ value $< .95$; acceptable $\geq .95$; good	0.817	1
Standardized Root Mean Square Residual	SRMR	$.05 <$ value $\leq .08$; acceptable $\leq .05$; good	0.0917	0.011
Hoelter's Critical N	Hoelter Index	$75 \leq$ value < 200; acceptable ≥ 200 ; good	54	1038

As seen in Table 14, based on the cut-off criteria for all the selected goodness-of-fit indices, the revised measurement model indicates perfect fit to the data, and thus is proved to be a valid measurement model of operational stress for further SEM analysis. The following table (Table 15) presents the parameter estimates for both the generic and the revised measurement models of operational stress.

Table 15: Parameter Estimates of Operational Stress

	GENERIC MODEL					REVISED MODEL				
INDICATOR	URW	SRW	SE	CR	P	URW	SRW	SE	CR	P
Alwaysonjob	1	0.749				1	0.713			
Negativepubliccomment	0.884	0.65	0.06	14.83	***	0.839	0.587	0.059	14.259	***
Lackofunderstanding	0.936	0.684	0.06	15.654	***	0.934	0.649	0.06	15.49	***
Physicalfit	1.029	0.804	0.055	18.644	***	1.086	0.808	0.061	17.882	***
Healthproblems	0.966	0.767	0.054	17.733	***	1.075	0.814	0.065	16.544	***
Sociallifemanagement	0.988	0.762	0.056	17.589	***	1.101	0.809	0.064	17.099	***
Traumaticevents	0.737	0.492	0.067	11.053	***					
Riskofinjured	0.663	0.464	0.064	10.41	***					
Overtimedemands	0.906	0.69	0.057	15.806	***	1.019	0.74	0.065	15.725	***
Shiftwork	0.658	0.466	0.063	10.454	***					
d19 <--> d18						0.165	0.263	0.031	5.257	***
d18 <--> d12						0.075	0.149	0.024	-3.057	0.002
d16 <--> d12						0.089	0.254	0.023	-3.862	***
d20 <--> d19						0.098	0.175	0.028	3.566	***
d16 <--> d15						0.076	0.251	0.022	-3.518	***
d20 <--> d18						0.083	0.156	0.027	3.027	0.002

Note: URW = Unstandardized Regression Weights; SRW = Standardized Regression Weights; SE = Standard Error; CR = Critical Ratio; *** = Correlation is significant at .01 level

Table 15 shows that all factor loadings and correlations between measurement error terms are statistically significant at $p \leq .05$ as they should be. Although the factor loadings of three indicators are significant in the generic model, they were excluded from the measurement model of operational stress because of their low factor loadings. The standardized factor loadings of seven indicators in the revised and final model range from .587 to .814.

4.3.3 Supervisor Support

Supervisor support was conceptualized as a latent variable having seven indicators to be measured. On a five-point Likert scale ranging from "Strongly Disagree" to "Strongly Agree," respondents were asked to indicate agreement or disagreement with each indicator of the supervisor support latent construct. The measurement model of supervisor support, including seven indicators, was subjected to CFA to evaluate the validity of the latent construct. The generic measurement model of supervisor support is presented in Appendix F (Figure 18).

Critical ratios of all indicators show that the factor loading of each is statistically significant at $p \leq .05$ ($CR > 1.96$). Only one indicator, *Criticize*, was removed from the model because its corresponding factor loading (.46) was below the threshold level for this study. Even though with the exception of the Chi-square associated p value and the Chi-square / degree of freedom ratio, the selected goodness-of-fit statistics were within acceptable limits, two pairs of measurement errors: between *Creditforwell* and *Backup* and between *Creditforwell* and *Worktogether* were correlated to achieve a better model fit in addition to removing the indicator criticize. The revised measurement model of supervisor support is presented in Figure 11.

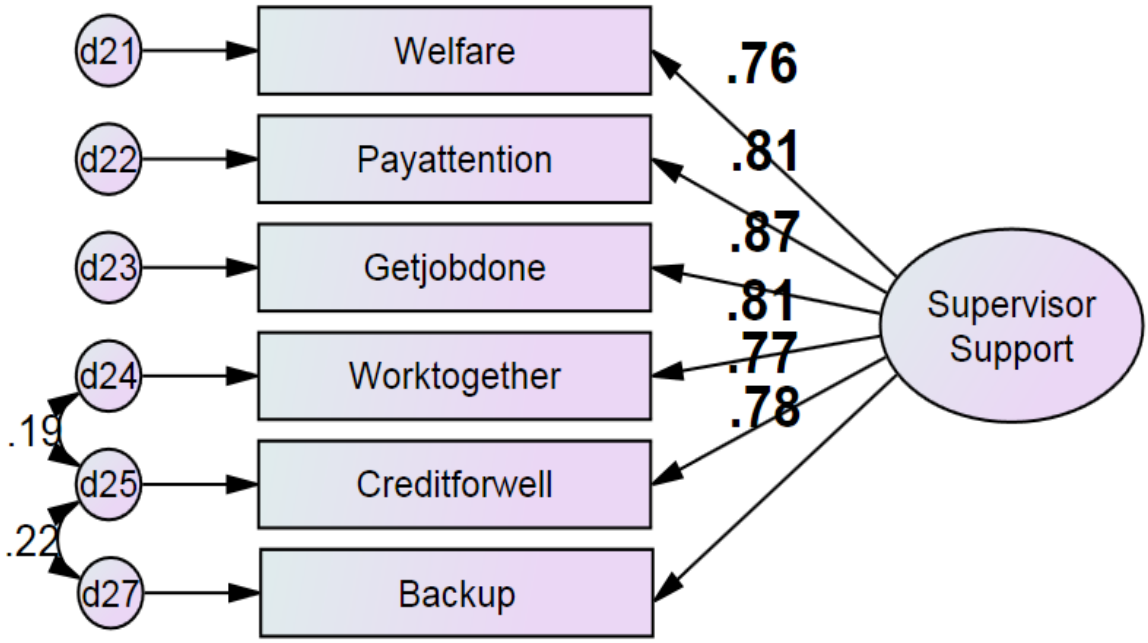


Figure 11: A Revised Measurement Model of Supervisor Support

On the basis of the selected goodness-of-fit statistics, substantial improvement was achieved in the final revised model fit after excluding one low factor item and correlating two pairs of measurement errors. Goodness-of-fit statistics for both the generic and the revised models of operational stress are presented in Table 16.

Table 16: Goodness-of-Fit Statistics of Supervisor Support

Index	Shorthand	Criteria	Generic Model	Revised Model
Chi-square	$\chi 2$	Smaller the better	56.162	13.243
Chi-square associated p value	p	$\geq .05$	0	0.066
Chi-square / Degree of Freedom	$\chi 2$ / df	≤ 2 ; ≤ 3; ≤ 4	4.012	1.892
Root Mean Square Error of Approximation	RMSEA	$.05 <$ value $\leq .08$; acceptable $\leq .05$; good	0.075	0.041
RMSEA associated p value	PCLOSE	$\geq .05$	0.021	0.63
Tucker-Lewis Index	TLI	$.90 \leq$ value $< .95$; acceptable $\geq .95$; good	0.972	0.994
Comparative Fit Index	CFI	$.90 \leq$ value $< .95$; acceptable $\geq .95$; good	0.981	0.997
Standardized Root Mean Square Residual	SRMR	$.05 <$ value $\leq .08$; acceptable $\leq .05$; good	0.0261	0.0126
Hoelter's Critical N	Hoelter Index	$75 \leq$ value < 200; acceptable ≥ 200 ; good	227	571

The chi-square associated p value (also known as the probability value) increased to .066, meaning that there is no significant difference between the hypothesized and the observed covariance matrix. The Chi-square / degree of freedom ratio is also down to 1.892 from 4.012. Other selected statistics show significant improvement after the model revision and are all well within the suggested good limits. Therefore the revised model is confirmed as a valid measurement model of supervisor support for further SEM analysis. The following Table (Table 17) presents the parameter estimates for both the generic and the revised measurement models of operational stress.

Table 17: Parameter Estimates of Supervisor Support

	GENERIC MODEL					REVISED MODEL				
INDICATOR	URW	SRW	SE	CR	P	URW	SRW	SE	CR	P
Criticize	0.578	0.461	0.053	10.874	***					
Creditforwell	0.994	0.808	0.045	22.038	***	0.958	0.765	0.044	21.703	***
Worktogether	1	0.83				1	0.814			
Getjobdone	1.054	0.855	0.044	23.973	***	1.095	0.871	0.047	23.324	***
Payattention	0.948	0.799	0.044	21.657	***	0.984	0.813	0.046	21.303	***
Welfare	0.877	0.751	0.044	19.82	***	0.908	0.762	0.046	19.534	***
Backup	0.997	0.802	0.046	21.777	***	0.989	0.78	0.049	20.111	***
d25 <--> d27						0.087	0.219	0.021	4.207	***
d25 <--> d24						0.067	0.189	0.019	3.557	***

Note: URW = Unstandardized Regression Weights; SRW = Standardized Regression Weights; SE = Standard Error; CR = Critical Ratio; *** = Correlation is significant at .01 level

As shown in Table 17, the final revised model of supervisor support consists of six indicators. All regression coefficients and correlations between measurement error terms are significant at $p \leq .05$ in the final revised model. The indicators *Creditforwell*, *Worktogether*, *Getjobdone*, *Payattention*, *Welfare*, and *Backup* have substantially good factor loadings on the supervisor support latent construct, with values of 0.765, 0.814, 0.871, 0.813, 0.762, and .78 respectively.

4.3.4 Work-related Burnout

Work-related Burnout was conceptualized as a latent construct aiming to measure the respondents' perceptions of the physical and psychological exhaustion as related to their work,

using seven items developed on a five-point Likert scale. The generic measurement model of work-related burnout is presented in Appendix F (Figure 19). Critical ratios of seven indicators were checked to identify their significance in the measurement model. The critical ratios for all factor loadings are significant at $p \leq .05$, and all factor loadings surpass the established threshold value of .50 except for the *Emotionalexhaustion* indicator. Factor loading from the indicator *Emotionalexhaustion* to work-related burnout is .44, so it was eliminated from the measurement model of work-related burnout.

Five pairs of measurement errors were allowed to be correlated with each other until a reasonably good model fit was achieved, since removing one low factor item had not revealed acceptable results for model fit according to the selected goodness-of-fit statistics even if all remaining six items were significant. The revised measurement model of work-related burnout is presented in Figure.12.

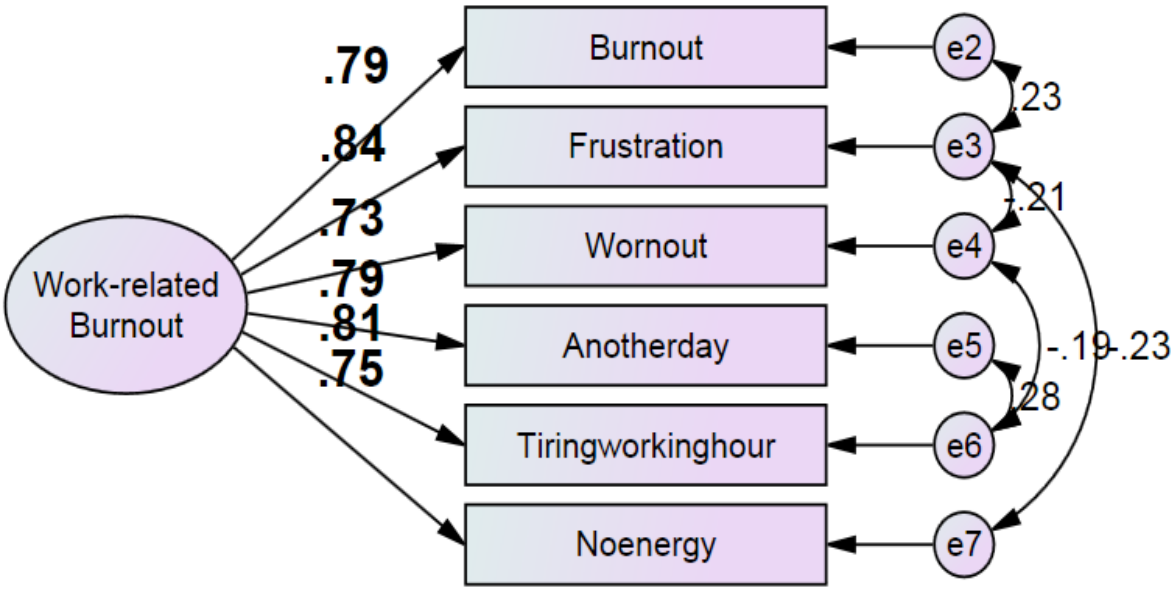


Figure 12: A Revised Measurement Model of Work-related Burnout

The goodness-of-fit statistics for the revised model shows that the final revised model of work-related burnout has a very good fit to the data. Goodness-of-fit statistics for both the generic and the revised models of operational stress are presented in Table 18.

Table 18: Goodness-of-Fit Statistics of Work-related Burnout

Index	Shorthand	Criteria	Generic Model	Revised Model
Chi-square	$\chi 2$	Smaller the better	107.249	5.257
Chi-square associated p value	p	$\geq .05$	0	0.262
Chi-square / Degree of Freedom	$\chi 2$ / df	≤ 2 ; ≤ 3; ≤ 4	7.661	1.314
Root Mean Square Error of Approximation	RMSEA	$.05 <$ value $\leq .08$; acceptable $\leq .05$; good	0.111	0.024
RMSEA associated p value	PCLOSE	$\geq .05$	0	0.757
Tucker-Lewis Index	TLI	$.90 \leq$ value $< .95$; acceptable $\geq .95$; good	0.932	0.998
Comparative Fit Index	CFI	$.90 \leq$ value $< .95$; acceptable $\geq .95$; good	0.955	0.999
Standardized Root Mean Square Residual	SRMR	$.05 <$ value $\leq .08$; acceptable $\leq .05$; good	0.0347	0.0085
Hoelter's Critical N	Hoelter Index	$75 \leq$ value < 200; acceptable ≥ 200 ; good	119	970

A substantial reduction in the chi-square value appears in the revised model (107.249 vs. 5.257), and the chi-square associated p value probability is insignificant at p = .262, indicating no significant difference between the hypothesized and the observed covariance matrix. Significant improvement is also observed in the values of RMSEA and Hoelter's Critical N. The RMSEA value decreased from .111 to .024 in the revised model, and the Hoelter's Critical N increased to 970 from 119, all indicating the adequacy of the revised measurement model of

work-related burnout. All remaining goodness-of-fit statistics are also within the suggested limits. Goodness-of-fit statistics confirm the revised measurement model for work-related burnout as the valid measurement model for further SEM analysis. Table 19 presents the parameter estimates for both the generic and revised the measurement models of work-related burnout.

Table 19: Parameter Estimates of Work-related Burnout

	GENERIC MODEL					REVISED MODEL				
INDICATOR	URW	SRW	SE	CR	P	URW	SRW	SE	CR	P
Burnout	0.962	0.825	0.043	22.607	***	0.914	0.793	0.04	22.858	***
Frustration	1	0.834				1	0.844			
Wornout	0.69	0.679	0.04	17.253	***	0.737	0.734	0.045	16.206	***
Anotherday	0.988	0.819	0.044	22.366	***	0.939	0.787	0.055	17.154	***
Tiringworkinghour	1.028	0.829	0.045	22.769	***	0.996	0.813	0.058	17.171	***
Noenergy	0.816	0.712	0.044	18.349	***	0.847	0.747	0.05	17.012	***
Emotionalexhaustion	0.523	0.44	0.051	10.289	***					
e2 <--> e3						0.076	0.233	0.03	2.538	0.011
e3 <--> e4						0.067	0.214	0.022	-3.081	0.002
e4 <--> e6						0.069	0.195	0.02	-3.496	***
e5 <--> e6						0.106	0.278	0.03	3.528	***
e3 <--> e7						0.078	0.225	0.024	-3.292	***

Note: URW = Unstandardized Regression Weights; SRW = Standardized Regression Weights; SE = Standard Error; CR = Critical Ratio; *** = Correlation is significant at .05 level

The revised model of work-related burnout demonstrates statistically significant critical ratios for all indicators at $p \leq .05$, and factor estimates range from .747 to .844. The correlations

between measurement errors are also significant. The indicators of *Frustration* and *Tiringworkinghour* have the strongest factor loadings on latent construct supervisor support, with standardized coefficient values of .844 and .813 respectively.

4.3.5 Job Satisfaction

The latent construct of job satisfaction is another endogenous variable of the study, measured by nine items collectively aimed to measure the overall satisfaction levels of respondents. The items were selected to reflect the various aspects of the job: the amount of money earned (*pay*), the competency of the supervisor (*supervisor*), the possibility of recognition receiving (*contingentrewards*), the pleasure level of working with coworkers (*coworkers*), the quality of communication in the organization (*communication*), benefits offered (*benefits*), the nature of the work (*natureofwork*), the simplicity levels of doing a good job (*operatingprocedures*), and the degree of fairness in promotions (*promotion*). Respondents were asked to indicate their agreement level about each job satisfaction statement on a five-point Likert scale. Confirmatory factor analysis (CFA) conducted to validate the generic measurement model of job satisfaction is presented in Appendix F (Figure 20).

Checking the critical ratios of parameter estimates for the generic model found that all regression coefficients were significant at $p \leq .05$ ($CR > 1.96$). After checking the critical ratios of parameter estimates, their strength was also evaluated to determine whether any indicators had lower factor loadings below the established threshold value (.50). The indicator *Pay* was excluded from the measurement model because it had a factor loading of .41, below the threshold value.

Even though better goodness-of-fit was achieved after removing one indicator with low factor loading from the job satisfaction measurement model, the majority of the goodness-of-fit statistics selected for this study were not within acceptable limits, suggesting that the model could be improved by pairing the measurement errors one at a time. Ten pairs of measurement errors were allowed to be correlated with each other, starting from the one yielding the largest improvement in the model. After correlating ten pairs of measurement errors, a perfectly fit model was achieved. The revised measurement model of job satisfaction is presented in Figure 13.

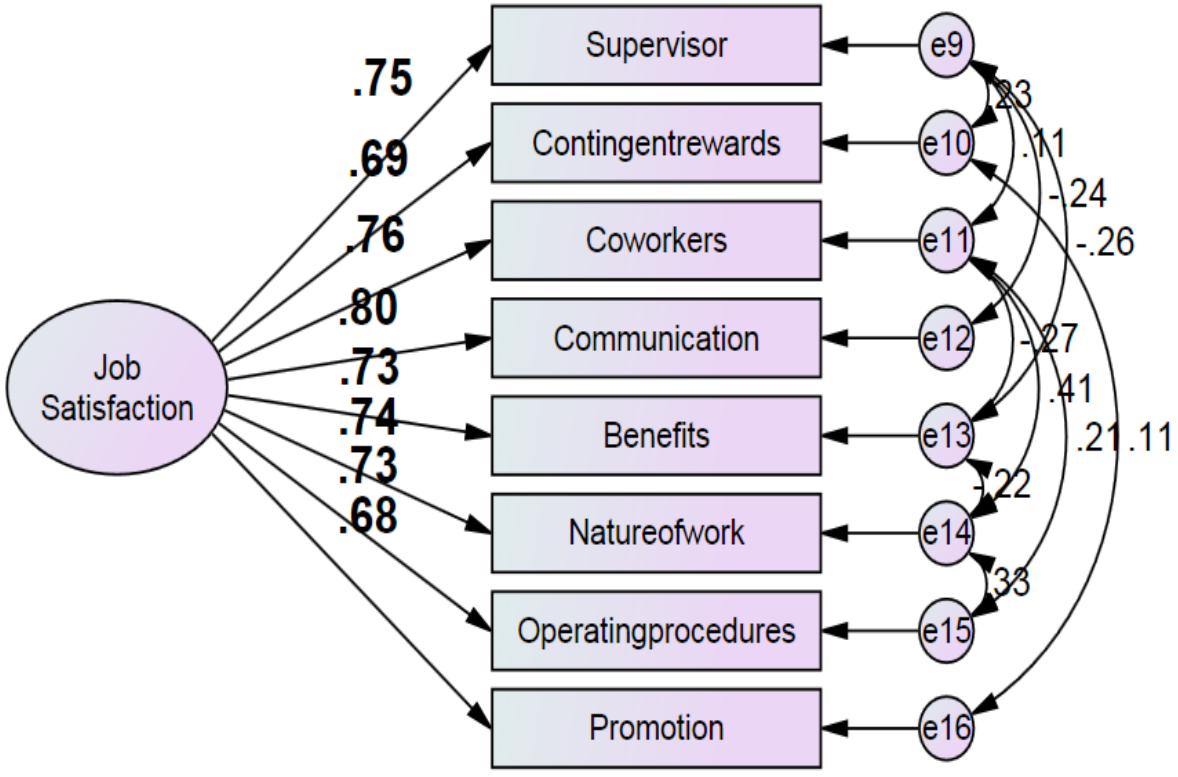


Figure 13: A Revised Measurement Model of Job Satisfaction

After revision, all goodness-of-fit statistics indicate an excellent fit to the data. Goodness-of-fit statistics for both the generic and the revised models are presented in Table 20.

Table 20: Goodness of Fit Statistics of Job Satisfaction

Index	Shorthand	Criteria	Generic Model	Revised Model
Chi-square	$\chi 2$	Smaller the better	238.721	14.72
Chi-square associated p value	p	$\geq .05$	0	0.143
Chi-square / Degree of Freedom	$\chi 2$ / df	≤ 2 ; ≤ 3; ≤ 4	8.842	1.472
Root Mean Square Error of Approximation	RMSEA	$.05 <$ value $\leq .08$; acceptable $\leq .05$; good	0.121	0.03
RMSEA associated p value	PCLOSE	$\geq .05$	0	0.85
Tucker-Lewis Index	TLI	$.90 \leq$ value $< .95$; acceptable $\geq .95$; good	0.886	0.994
Comparative Fit Index	CFI	$.90 \leq$ value $< .95$; acceptable $\geq .95$; good	0.915	0.998
Standardized Root Mean Square Residual	SRMR	$.05 <$ value $\leq .08$; acceptable $\leq .05$; good	0.0495	0.0122
Hoelter's Critical N	Hoelter Index	$75 \leq$ value < 200; acceptable ≥ 200 ; good	91	668

All goodness-of-fit statistics, including the chi-square ($\chi 2$) with a value of 14.72, chi-square/df ($\chi 2$/df) with a value of 1.472, the root mean square error of approximation (RMSEA) with a value of .03, the comparative fit index (CFI) with a value of .998 , the Tucker-Lewis Index (TLI) with a value of .994, the standardized root mean square residual (SRMR) with a value of .0122, and Hoelter's Critical N with a value of 668 demonstrate that the revised measurement model of job satisfaction perfectly fits the data. Therefore, it is confirmed as the

valid measurement model for further SEM analysis. Table 21 presents the parameter estimates for both the generic and the revised measurement models of job satisfaction.

Table 21: Parameter Estimates of Job Satisfaction

	GENERIC MODEL					REVISED MODEL				
INDICATOR	URW	SRW	SE	CR	P	URW	SRW	SE	CR	P
Supervisor	1	0.723				1	0.747			
Contingentrewards	0.931	0.699	0.059	15.658	***	0.89	0.689	0.054	16.536	***
Coworkers	1.349	0.81	0.074	18.199	***	1.218	0.755	0.076	15.972	***
Communication	1.075	0.766	0.063	17.188	***	1.095	0.805	0.069	15.837	***
Benefits	0.888	0.64	0.062	14.32	***	0.981	0.73	0.07	14.063	***
Natureofwork	1.247	0.803	0.069	18.031	***	1.107	0.737	0.075	14.707	***
Operatingprocedures	1.116	0.794	0.063	17.825	***	0.997	0.732	0.067	14.834	***
Promotion	0.96	0.676	0.063	15.151	***	0.939	0.683	0.066	14.322	***
Pay	0.595	0.406	0.066	9.041	***					
e9 <--> e10						0.11	0.234	0.028	3.906	***
e11 <--> e14						0.248	0.409	0.039	6.375	***
e14 <--> e15						0.177	0.333	0.033	5.428	***
e9 <--> e11						0.059	0.111	0.027	2.2	0.028
e11 <--> e15						0.114	0.205	0.033	3.407	***
e9 <--> e12						0.096	0.235	0.026	-3.686	***
e9 <--> e13						-0.12	0.259	0.028	-4.222	***
e11 <--> e13						0.147	0.268	0.03	-4.917	***
e13 <--> e14						0.116	-0.22	0.027	-4.362	***
e10 <--> e16						0.058	0.11	0.025	2.339	0.019

Note: URW = Unstandardized Regression Weights; SRW = Standardized Regression Weights; SE = Standard Error; CR = Critical Ratio; *** = Correlation is significant at .05 level.

As seen in Table 21, all factor loadings and correlations between error terms are statistically significant in both the generic and the revised measurement models at $p \leq .05$. Although the factor loading of indicator *pay* is significant in the generic model, it was excluded from the measurement model of operational stress because of its low factor loading. The indicators of *Communication* and *Coworker* have the strongest factor loadings on latent construct supervisor support, with standardized coefficient values of .805 and .755 respectively.

4.4 Reliability Analysis

Reliability of the measurement, which is one of the most important requirements for any survey instrument, refers to the quality of measurement in everyday terms. Since this study is based on subjective self-report surveys, the reliability of the survey instrument is crucial for obtaining accurate responses from participants. Valid inferences about a larger population of study interest can be drawn only from a survey instrument that established reliability statistics tests have shown to be reliable.

In order to confirm the reliability of the study scales two analyses were performed: Cronbach's Alpha coefficient (α) and the Composite Reliability Coefficient (CRC). The Cronbach's Alpha coefficient score is one of the most widely used criteria for the internal consistency of survey instruments that contain ordinal data. It assesses the degree to which respondents respond to similar test items in the same way.

Another important statistical test for internal consistency check of a latent variable is the Composite Reliability Coefficient, which assesses the internal consistency of latent variables'

items, taking into account their measurement errors (Chin, 1998). The Composite Reliability Coefficient formula created by Werts, Linn, and Joreskog in 1974 (DeShon, 1996) was used here to evaluate the internal consistency of each latent construct. As explained in the methodology section, this formula requires dividing the squared sum of the standardized factor loadings by the squared sum of the standardized factor loadings plus the variance of the error terms. The reliability of measurement of this study was evaluated based on the determined minimum threshold level of .70 for both Cronbach's Alpha Coefficient and Composite Reliability Coefficient.

Cronbach's Alpha and the Composite Reliability Coefficient were computed for each latent construct both before and after the confirmatory factor analysis, since some indicators were excluded due to their low factor loadings. The following Table (Table 22) illustrates the Cronbach's Alpha and Composite Reliability Coefficient scores before and after the confirmatory factor analysis.

Table 22: Cronbach's Alphas and Composite Reliability Coefficients for Latent Constructs

Variable	Number of Items	Cronbach's Alpha (α)	Composite Reliability Coefficient (CRC)
Organizational Stress	10* / 6**	0.814* / 0.791**	0.833* / 0.828**
Operational Stress	10* / 7**	0.881* / 0.89**	0.878* / 0.895**
Supervisor Support	7* / 6**	0.903* / 0.918**	0.91* / 0.919**
Job Satisfaction	9* / 8**	0.897* / 0.906**	0.891* / 0.895**
Work-related Burnout	7* / 6**	0.89* / 0.905**	0.898* / 0.911**

* Before Confirmatory Factor Analysis (CFA)
** After Confirmatory Factor Analysis (CFA)

Four items from the organizational stress scale, three items from the operational stress scale, and one item from the supervisor support, job satisfaction, and work-related burnout scales were removed because of their low factor loadings, in order to obtain better model fit for each latent construct. The results of before-and-after confirmatory factor analyses show that in all cases the Cronbach's alpha indexes and composite reliability coefficients greatly surpass the minimum recommended level of .70, indicating that these measurement scales have high internal consistency.

4.5 Structural Equation Model

SEM is a statistical procedure to explore the causal links among variables in a structural model (Wan, 2002; Gall, Gall, and Borg, 2007). The structural equation model includes all latent and control variables and the theoretically driven relationships among them, to evaluate the significance of the hypothesis paths and the explanatory power of the model by computing the R2 values for each endogenous variable (Kaplan, 2000). The R2 refers to the proportion of variation of the endogenous variable that is explained by the set of exogenous variables (Bates, 2005).

SEM technique was used to explore the relationships among the latent constructs, including organizational stress, operational stress, supervisor support, job satisfaction, and work-related burnout. Six control variables: education, age, gender, tenure, shift, and rank were added to the generic model to test the effects of these variables on the endogenous latent variables, since they might account for the variation. Gender and shift were coded as dummy variables;

male and regular shift were assigned as the reference groups for the control variables of gender and shift respectively. The generic structural equation model is presented in Figure 14.

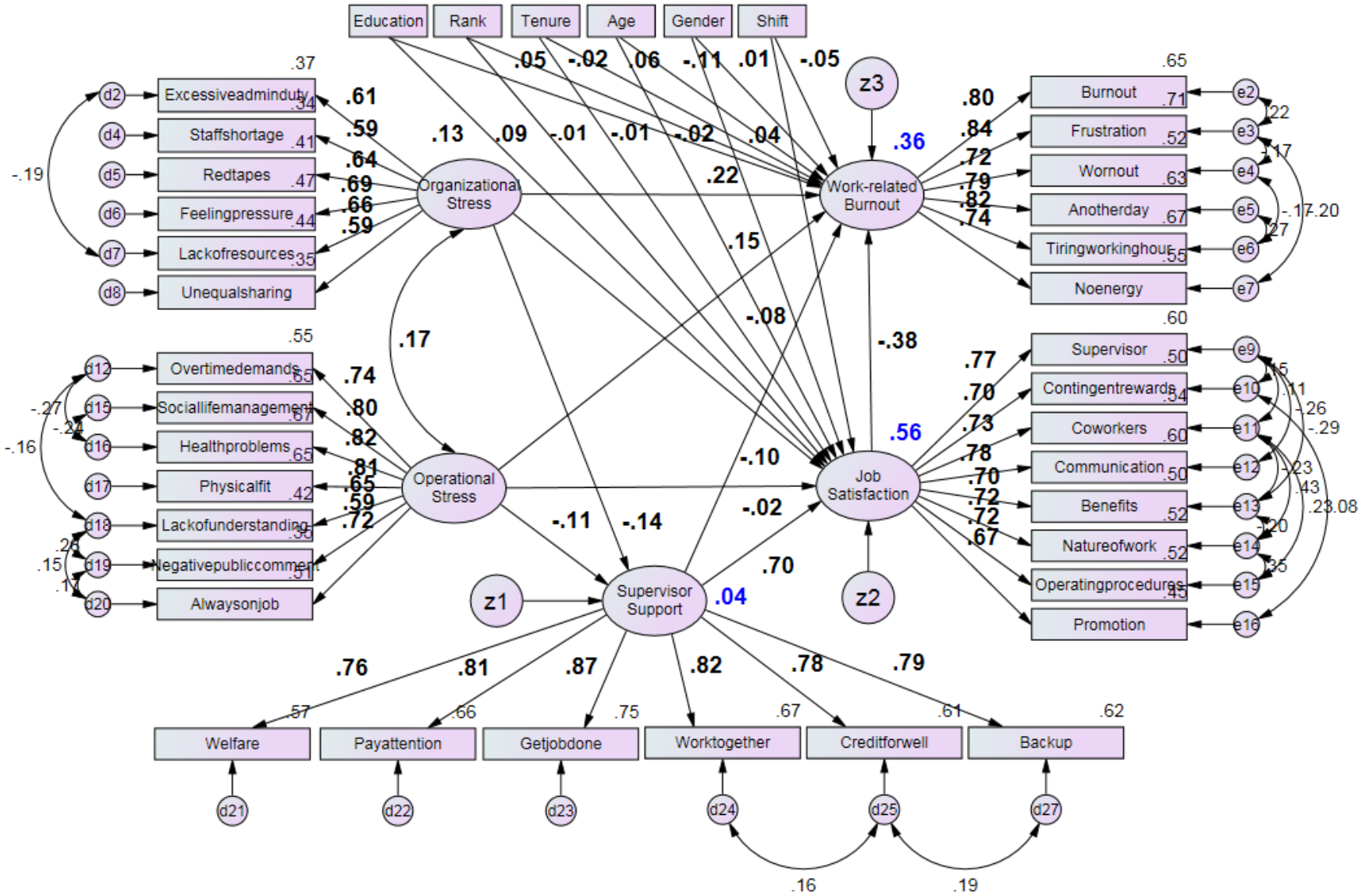


Figure 14: A Generic Structural Equation Model

Wan's three-stage approach (2002) was used for validating the generic hypothesized structural equation model. To check the indicators' appropriateness, the critical ratio of standardized regression weight of each indicator and structural path between variables was assessed in the first step to understand whether there were insignificant indicators or paths. Critical ratio values equal to +1.96 or higher, and -1.96 or lower illustrate the indicators' significance at $p \leq .05$. On the basis of these criteria, four control variables: tenure, age, gender, and shift, were excluded from the generic model, since the hypothesized relationships from these variables to endogenous variables failed to demonstrate significance at $p \leq .05$. The control variables of education and rank were retained in the model, since the structural paths from these control variables to the endogenous variable, job satisfaction demonstrated significance relationships at $p \leq .05$ with regression coefficient values of .14 and .08 respectively.

Although parameter estimates were in the anticipated direction consistent with the theory used for this study and the findings of previous studies, the hypothesized relationships between operational stress and job satisfaction and between supervisor support and work-related burnout were found to be statistically insignificant at $p \leq .05$. However, these theoretically hypothesized structural paths were retained in the structural equation model although they demonstrated insignificant relationships. After removing four control variables from the generic model, SEM analysis was conducted again. The goodness-of-fit statistics then showed that the revised structural model demonstrated a reasonable fit to the data, indicating no need to correlate pairs of measurement errors between indicators. The revised structural equation model is presented in Figure 15.

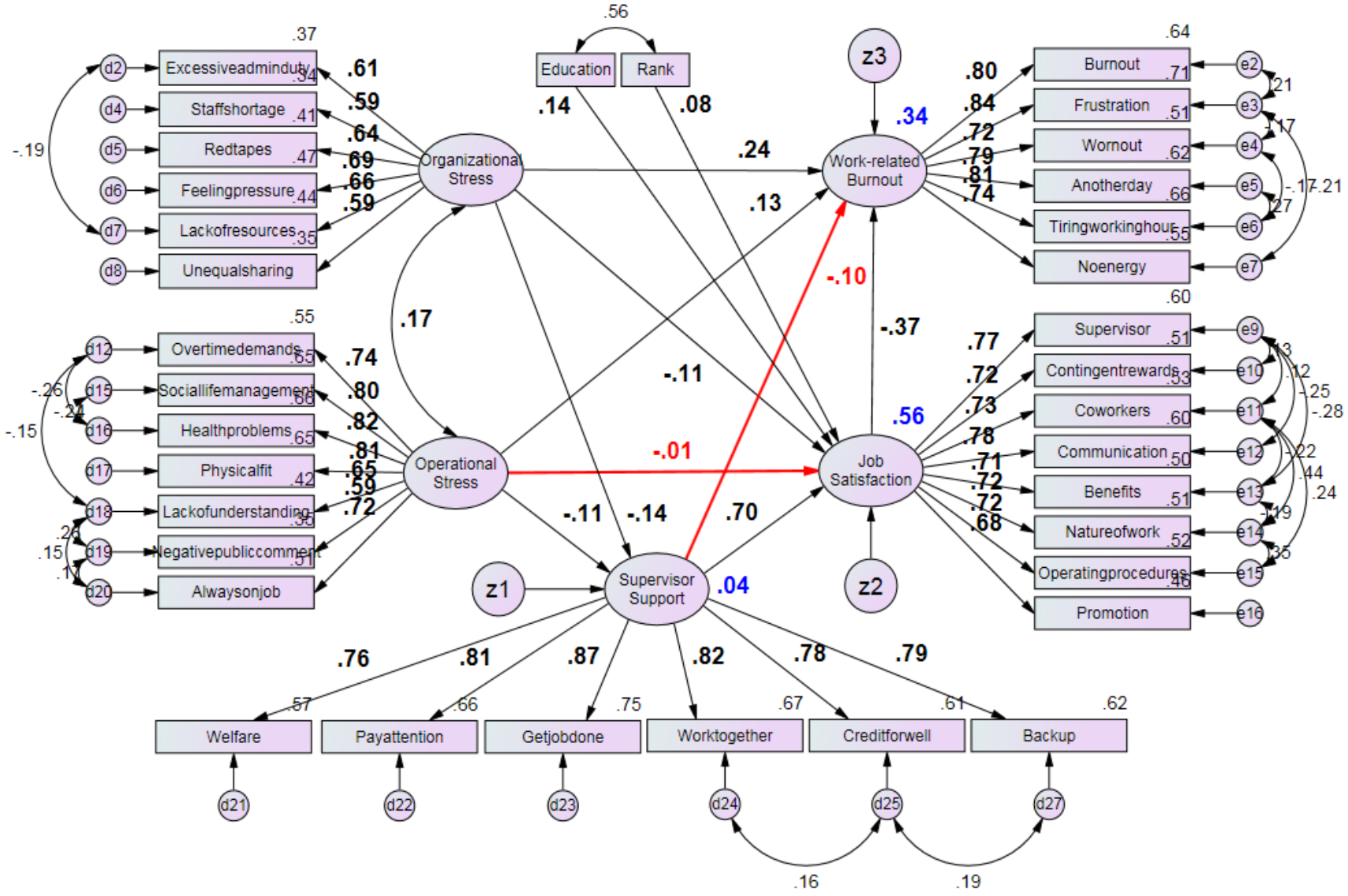


Figure 15: The Revised Structural Equation Model

Removing four control variables with insignificant factor loadings yielded substantial improvement in the revised model fit compared to the generic one. Goodness-of-fit statistics for both the generic and the revised models are displayed in Table.23.

Table 23: Goodness of Fit Statistics for Generic and Revised SEM

Index	Shorthand	Criteria	Generic Model	Revised Model
Chi-square	$\chi 2$	Smaller the better	2412.404	1033.638
Chi-square associated p value	p	$\geq .05$	0	0
Chi-square / Degree of Freedom	$\chi 2$ / df	≤ 2 ; ≤ 3; ≤ 4	3.639	1.965
Root Mean Square Error of Approximation	RMSEA	$.05 <$ value $\leq .08$; acceptable $\leq .05$; good	0.07	0.042
RMSEA associated p value	PCLOSE	$\geq .05$	0	1
Tucker-Lewis Index	TLI	$.90 \leq$ value $< .95$; acceptable $\geq .95$; good	0.827	0.944
Comparative Fit Index	CFI	$.90 \leq$ value $< .95$; acceptable $\geq .95$; good	0.845	0.951
Standardized Root Mean Square Residual	SRMR	$.05 <$ value $\leq .08$; acceptable $\leq .05$; good	0.0769	0.064
Hoelter's Critical N	Hoelter Index	$75 \leq$ value < 200; acceptable ≥ 200 ; good	162	302

Except for the chi-square associated p value, the goodness-of-fit measures indicate a good model fit to the data for the revised structural equation model. Chi-square associated p value is lower than .05, showing that there is a difference between the hypothesized covariance matrix and the observed covariance matrix.

As noted in the methodology section, the chi-square test should not be used alone to evaluate model fit, because chi-square test is sensitive to sample size (Schermelleh-Engel et al., 2003). As the sample size increases, chi-square associated p value is more likely to be significant although a small difference exists between the hypothesized covariance matrix and the observed covariance matrix (Byrne, 2001). Therefore it is recommended to evaluate other goodness-of-fit statistics for the model in addition to the chi-square associated p value.

As seen in Table 23, substantial improvement was achieved for the TLI, CFI and Hoelter Index scores of the revised model compared to generic model. While TLI scores increased from .827 to .944, which is very close to good model fit criteria, the CFI value rose to .951 from .845, indicating a perfectly model fit. Hoelter index value of 302 (compared to 162 in the generic model) in the revised model demonstrates that the revised model has adequate sample size at the determined threshold level. Significant improvement was detected for the Chi-square / degree of freedom ratio with a value of 1.965, which is below the lowest threshold criteria of 2. Even though the RMSEA score (.07) was within the acceptable limits for generic model, a RMSEA score of .042 was achieved in the revised model after the revision, indicating good model fit to the established criteria of .50. In both the generic and the revised models, SRMR values were within acceptable limits with values of .0769 and .064 respectively. As a result, the data showed that the revised structural model has a reasonably good model fit.

The following Table (Table 24) presents the parameter estimates for both the generic and the revised structural models.

Table 24: Parameter Estimates of Generic and Revised Structural Models

		GENERIC MODEL					REVISED MODEL				
INDICATOR		URW	SRW	SE	CR	P	URW	SRW	SE	CR	P
Supervisor Support	<--- Organizational Stress	-0.199	-0.141	0.072	-2.757	0.006	-0.199	-0.141	0.072	-2.759	0.006
Supervisor Support	<--- Operational Stress	-0.119	-0.107	0.053	-2.249	0.025	-0.119	-0.107	0.053	-2.245	0.025
Job Satisfaction	<--- Organizational Stress	-0.134	-0.098	0.052	-2.568	0.01	-0.145	-0.106	0.052	-2.776	0.005
Job Satisfaction	<--- Operational Stress	-0.023	-0.021	0.038	-0.609	0.542	-0.014	-0.013	0.038	-0.357	0.721
Job Satisfaction	<--- Supervisor Support	0.68	0.706	0.047	14.482	***	0.677	0.7	0.047	14.447	***
Job Satisfaction	<--- Rank	0.047	0.087	0.018	2.633	0.008	0.042	0.078	0.021	1.957	0.05
Job Satisfaction	<--- Education	0.118	0.132	0.03	3.959	***	0.122	0.136	0.036	3.41	***
Job Satisfaction	<--- Tenure	-0.006	-0.011	0.02	-0.322	0.747					
Job Satisfaction	<--- Age	-0.008	-0.012	0.02	-0.376	0.707					
Job Satisfaction	<--- Gender	-0.06	-0.021	0.095	-0.63	0.529					
Job Satisfaction	<--- Shift	0.067	0.044	0.05	1.335	0.182					
Work Burnout	<--- Organizational Stress	0.34	0.223	0.07	4.857	***	0.361	0.238	0.071	5.079	***
Work Burnout	<--- Operational Stress	0.179	0.148	0.049	3.619	***	0.153	0.127	0.05	3.085	0.002
Work Burnout	<--- Job Satisfaction	-0.425	-0.378	0.078	-5.462	***	-0.407	-0.366	0.074	-5.503	***
Work Burnout	<--- Supervisor Support	-0.091	-0.084	0.07	-1.308	0.191	-0.104	-0.097	0.068	-1.539	0.124
Work Burnout	<--- Shift	-0.081	-0.047	0.065	-1.243	0.214					
Work Burnout	<--- Gender	0.015	0.005	0.122	0.126	0.899					
Work Burnout	<--- Age	-0.074	-0.106	0.026	-2.805	0.005					
Work Burnout	<--- Tenure	0.044	0.065	0.026	1.716	0.086					
Work Burnout	<--- Rank	-0.014	-0.023	0.023	-0.6	0.548					

		GENERIC MODEL					REVISED MODEL				
INDICATOR		URW	SRW	SE	CR	P	URW	SRW	SE	CR	P
Work Burnout	<--- Education	0.045	0.045	0.039	1.168	0.243					
Unequalsharing	<--- Organizational Stress	0.862	0.595	0.077	11.175	***	0.861	0.593	0.077	11.159	***
Lackofresources	<--- Organizational Stress	1.001	0.66	0.085	11.716	***	1.001	0.66	0.085	11.718	***
Feelingpressure	<--- Organizational Stress	1.234	0.687	0.099	12.455	***	1.235	0.688	0.099	12.461	***
Redtapes	<--- Organizational Stress	1	0.638				1	0.637			
Staffshortage	<--- Organizational Stress	1.004	0.586	0.091	11.05	***	1.004	0.586	0.091	11.052	***
Excessiveadminduty	<--- Organizational Stress	0.987	0.608	0.09	10.966	***	0.989	0.61	0.09	10.984	***
Alwaysonjob	<--- Operational Stress	1	0.717				1	0.717			
Negativepubliccomment	<--- Operational Stress	0.836	0.588	0.058	14.305	***	0.836	0.588	0.058	14.299	***
Lackofunderstanding	<--- Operational Stress	0.932	0.651	0.06	15.536	***	0.932	0.651	0.06	15.533	***
Physicalfit	<--- Operational Stress	1.076	0.805	0.06	17.963	***	1.077	0.806	0.06	17.97	***
Healthproblems	<--- Operational Stress	1.072	0.816	0.064	16.756	***	1.07	0.815	0.064	16.734	***
Sociallifemanagement	<--- Operational Stress	1.088	0.803	0.063	17.144	***	1.088	0.804	0.063	17.149	***
Overtimedemands	<--- Operational Stress	1.017	0.743	0.064	15.886	***	1.017	0.742	0.064	15.877	***
Burnout	<--- Work Burnout	0.927	0.803	0.039	23.844	***	0.925	0.801	0.039	23.531	***
Frustration	<--- Work Burnout	1	0.843				1	0.843			
Wornout	<--- Work Burnout	0.723	0.72	0.044	16.606	***	0.722	0.718	0.044	16.419	***
Anotherday	<--- Work Burnout	0.948	0.794	0.05	18.869	***	0.943	0.789	0.051	18.549	***
Tiringworkinghour	<--- Work Burnout	1.004	0.818	0.052	19.168	***	0.998	0.813	0.053	18.806	***
Noenergy	<--- Work Burnout	0.843	0.743	0.048	17.421	***	0.842	0.741	0.049	17.226	***
Supervisor	<--- Job Satisfaction	1	0.772				1	0.773			

INDICATOR		GENERIC MODEL URW	SRW	SE	CR	P	REVISED MODEL URW	SRW	SE	CR	P
Contingentrewards	<--- Job Satisfaction	0.896	0.714	0.051	17.65	***	0.896	0.716	0.051	17.723	***
Coworkers	<--- Job Satisfaction	1.146	0.731	0.066	17.301	***	1.145	0.731	0.066	17.356	***
Communication	<--- Job Satisfaction	1.022	0.775	0.063	16.247	***	1.022	0.776	0.063	16.317	***
Benefits	<--- Job Satisfaction	0.918	0.702	0.064	14.368	***	0.92	0.705	0.064	14.451	***
Natureofwork	<--- Job Satisfaction	1.046	0.716	0.066	15.93	***	1.045	0.716	0.065	15.973	***
Operatingprocedures	<--- Job Satisfaction	0.95	0.718	0.059	16.105	***	0.95	0.719	0.059	16.169	***
Promotion	<--- Job Satisfaction	0.908	0.678	0.059	15.364	***	0.909	0.68	0.059	15.432	***
Welfare	<--- Supervisor Support	0.901	0.759	0.046	19.613	***	0.9	0.758	0.046	19.596	***
Payattention	<--- Supervisor Support	0.976	0.809	0.046	21.431	***	0.977	0.81	0.046	21.433	***
Getjobdone	<--- Supervisor Support	1.085	0.866	0.046	23.526	***	1.085	0.865	0.046	23.517	***
Worktogether	<--- Supervisor Support	1	0.816				1	0.816			
Creditforwell	<--- Supervisor Support	0.975	0.78	0.044	22.205	***	0.975	0.78	0.044	22.204	***
Backup	<--- Supervisor Support	0.996	0.788	0.048	20.615	***	0.997	0.788	0.048	20.628	***
Organizational Stress	<--> Operational Stress	0.067	0.169	0.02	3.256	0.001	0.067	0.169	0.02	3.257	0.001
Education	<--> Rank						0.67	0.558	0.059	11.292	***
d7 <--> d2		-0.088	-0.191	0.025	-3.515	***	-0.088	-0.192	0.025	-3.54	***
d19 <--> d18		0.162	0.26	0.031	5.193	***	0.162	0.261	0.031	5.197	***
d18 <--> d12		-0.077	-0.156	0.024	-3.169	0.002	-0.077	-0.155	0.024	-3.157	0.002
d16 <--> d12		-0.093	-0.267	0.023	-4.072	***	-0.092	-0.263	0.023	-4.025	***
d20 <--> d19		0.095	0.17	0.027	3.474	***	0.095	0.17	0.027	3.475	***
d16 <--> d15		-0.074	-0.24	0.021	-3.424	***	-0.073	-0.239	0.022	-3.404	***

INDICATOR	GENERIC MODEL					REVISED MODEL				
	URW	SRW	SE	CR	P	URW	SRW	SE	CR	P
d20 <--> d18	0.077	0.147	0.027	2.843	0.004	0.077	0.147	0.027	2.846	0.004
e2 <--> e3	0.069	0.217	0.026	2.688	0.007	0.067	0.21	0.026	2.565	0.01
e3 <--> e4	-0.054	-0.167	0.02	-2.699	0.007	-0.056	-0.175	0.02	-2.788	0.005
e4 <--> e6	-0.063	-0.175	0.019	-3.294	***	-0.062	-0.172	0.019	-3.245	0.001
e5 <--> e6	0.099	0.265	0.026	3.764	***	0.103	0.272	0.027	3.863	***
e3 <--> e7	-0.07	-0.2	0.021	-3.29	0.001	-0.073	-0.209	0.022	-3.384	***
e9 <--> e10	0.054	0.129	0.025	2.205	0.027	0.053	0.128	0.025	2.175	0.03
e11 <--> e14	0.274	0.435	0.036	7.676	***	0.276	0.436	0.036	7.714	***
e14 <--> e15	0.191	0.351	0.03	6.333	***	0.192	0.352	0.03	6.352	***
e9 <--> e11	0.06	0.117	0.024	2.449	0.014	0.061	0.119	0.024	2.49	0.013
e11 <--> e15	0.134	0.235	0.03	4.398	***	0.135	0.236	0.031	4.43	***
e9 <--> e12	-0.1	-0.253	0.022	-4.474	***	-0.1	-0.253	0.022	-4.481	***
e9 <--> e13	-0.122	-0.274	0.025	-4.916	***	-0.123	-0.277	0.025	-4.95	***
e11 <--> e13	-0.125	-0.217	0.028	-4.414	***	-0.125	-0.217	0.028	-4.403	***
e13 <--> e14	-0.103	-0.187	0.026	-4.011	***	-0.102	-0.186	0.026	-3.996	***
d24 <--> d25	0.056	0.162	0.018	3.073	0.002	0.056	0.162	0.018	3.077	0.002
d25 <--> d27	0.071	0.188	0.02	3.617	***	0.071	0.187	0.02	3.605	***

Note: URW = Unstandardized Regression Weights; SRW = Standardized Regression Weights; SE = Standard Error; CR = Critical Ratio; *** = Correlation is significant at .01 level

As seen Table 24, the revised SEM model demonstrates statistically significant critical ratios for all indicators and correlations between measurement errors at $p \leq .05$. All indicators of latent constructs surpass the determined threshold level of .50. Except for the regression coefficients between the latent constructs of operational stress and job satisfaction, and between supervisor support and work-related burnout, all regression coefficients between latent constructs are also significant at $p \leq .05$.

Since supervisor support is the latent construct of the study that is expected to mediate the relationship between endogenous and exogenous variables, before starting the interpretations of path coefficients brief information about the concept of mediating is provided.

Baron and Kenny (1986) explained three mandatory conditions for mediation effect to exist in the model. First, the relationship between the exogenous and the mediating variable should be significant. Secondly, the mediating variable should be significantly related with the endogenous variable. Finally, the relationship between the exogenous and the endogenous variables should diminish when the mediating variable is inserted in the model. Full mediation occurs when the relationship between the exogenous and endogenous variables is not significant, but a significant relationship exists between the exogenous and mediating variable and the endogenous and mediating variables. In partial mediation, a significant amount of the variance in the endogenous variable is accounted for by the mediating variable, but direct effect between the exogenous and endogenous variables remains significant. The sign of the relationship of direct effect should also be the same as that for the product of indirect effects (cited in Little et al., 2007).

For the endogenous variable of work-related burnout, results from the revised SEM show that organizational stress and operational stress are positively and significantly related to work-related burnout, as anticipated by the study theory, with standardized regression weights of .24 and .13 respectively. On the other hand, significant and negative association was detected between job satisfaction and work-related burnout ($\beta = -0.37$, $p < 0.05$). These results demonstrate that as organizational stress and operational stress increase, work-related burnout also increases. Increase in job satisfaction results in decrease in work-related burnout. Even though both organizational and operational stress show significant relationships with supervisor support, since supervisor support does not have significant effect on work-related burnout ($\beta = -0.10$, $p < 0.05$), the relationship of organizational stress and the relationship of operational stress with work-related burnout are not mediated by supervisor support.

A positive correlation is seen between organizational stress and operational stress, with a correlation coefficient of .17 at $p \leq .05$. None of the control variables shows a statistically significance relationship with the work-related burnout latent construct. Overall, the predictor variables of organizational stress, operational stress, job satisfaction, and supervisor support (not significant) account for 34 % of the variance in t work-related burnout.

For the second endogenous variable of this study, job satisfaction, the revised SEM shows the path estimate between operational stress and job satisfaction to be insignificant ($\beta = -0.01$) at $p \leq .05$ even though the direction of relationship is in the hypothesized direction (negative). Significant and negative association exists between the latent constructs of organizational stress and job satisfaction ($\beta = -0.11$, $p < 0.05$).

To assess whether supervisor support mediates the relationships of both organizational stress and operational stress with job satisfaction, the significance of the structural paths from organizational and operational stress to supervisor support, and from supervisor support to job satisfaction were checked. The results of revised SEM show that both organizational and operational stress have significant and negative relationships with supervisor support, with regression coefficient values of -.14 and -.11 respectively. Positive correlation is observed between supervisor support and job satisfaction, with a correlation coefficient of .70 at $p \leq .05$. These results confirm the supervisor support as mediator for the relationship of both organizational stress and operational stress with job satisfaction. In order to understand whether supervisor support fully or partially mediates the relationship, the significance of the direct effects of organizational stress and operational stress on job satisfaction was checked. The relationship between operational stress and job satisfaction (direct effect) is insignificant at $p \leq .05$, demonstrating that supervisor support fully mediates the relationship between operational stress and job satisfaction. On the other hand, it is shown that supervisor support partially mediates the relationship between organizational stress and job satisfaction, since the relationship between the latent constructs of organizational stress and job satisfaction is significant ($\beta = -0.11$, $p < 0.05$).

The control variables of education and rank have positive and significant associations with the endogenous variable of job satisfaction at $p \leq .05$ ($\beta = .14, .08$ respectively), results that are consistent with prior studies. The percentage of variation in the job satisfaction variable that is explained by the variables of organizational stress, operational stress, supervisor support, education, and rank is 56 %.

4.6 Hypotheses Testing

To understand the relationship among occupational stress (organizational and operational stress), job satisfaction and burnout among law enforcement officers in the TNP and whether or not supervisor support mediates the relationship between the exogenous variables and endogenous variables, the following research hypotheses were formulated to be tested based on the theoretical framework of the study and the findings of the literature review;

H_1: Turkish National Police (TNP) employees' organizational stress is negatively associated with their job satisfaction levels.

First hypothesis of the study is supported by the study findings. With an unstandardized regression coefficient of -.145, significant and negative association was found between organizational stress and job satisfaction at $p \leq .05$. The negative unstandardized regression coefficient of .145 shows that one standard deviation increase in organizational stress accounts for a .145 decrease in job satisfaction. This result means that the members of TNP who perceive organizational factors as stressful are more likely to express low levels of job satisfaction.

H_2: Turkish National Police (TNP) employees' operational stress is negatively associated with their job satisfaction levels.

The second hypothesis predicted that operational stress perceived by the TNP employees would have a negative direct effect on job satisfaction levels. However, the relationship between operational stress and job satisfaction was not found to be significant, at $p \leq .05$ (β= -0.01), although the direction of the relationship is negative as anticipated. The data fail to reject the null

hypothesis, meaning that there is no strong association between the levels of operational stress and job satisfaction. Thus hypothesis 2 is rejected.

H_3: Turkish National Police (TNP) employees' organizational stress is positively associated with their burnout levels.

The results show that organizational stress has a positive and significant effect on work-related burnout ($\beta = 0.238$, $p < 0.05$). Therefore the null hypothesis is rejected. With an unstandardized regression coefficient of .361, this relationship suggests that one standard deviation increase in organizational stress level results in a .36 increase in work-related burnout level.

H_4: Turkish National Police (TNP) employees' operational stress is positively associated with their burnout levels.

The finding of a positive and significance relationship between operational stress and work-related burnout ($\beta = 0.127$, $p < 0.05$) supports the fourth hypothesis. The result confirms that, like organizational stress, operational stress also has a significant effect on work-related burnout. The positive unstandardized regression coefficient of .153 shows that as the operational stress level increases by one standard deviation, the job satisfaction level increases by .153.

H_5: Turkish National Police (TNP) employees' organizational stress is more influential than their operational stress on their job satisfaction levels, holding demographic and organizational factors constant.

Standardized regression weight tells the relative influence of the exogenous variables on the endogenous variable. Since organizational stress has a relatively higher regression weight than operational stress does on job satisfaction (-.106 vs. -.013), the fifth hypothesis is supported: organizational stressors are stronger predictors than operational stressors in determining job satisfaction level.

H_6: Turkish National Police (TNP) employees' organizational stress is more influential than their operational stress on their burnout levels, holding demographic and organizational factors constant.

The results of the study also support the sixth hypothesis. Between organizational and operational stress, organizational stress has a relatively higher regression coefficient, with a value of .238 (compared to .127). This result confirms that organizational stressors are stronger predictors than the stressors inherent in policing in determining the work-related burnout levels of TNP members.

H_7: Turkish National Police (TNP) employees' self-reported job satisfaction levels are negatively associated with their burnout levels, holding demographic and organizational factors constant.

With an unstandardized regression weight of -.366, a significant and negative relationship was detected between job satisfaction and work-related burnout, at $p \leq .05$. Therefore the seventh research hypothesis is supported. This negative unstandardized regression coefficient suggests

that one standard deviation increase in job satisfaction accounts for a .366 decrease in work-related burnout.

H_8: Supervisor support mediates the adverse effect of organizational stress on Turkish National Police (TNP) employees' burnout levels.

H_9: Supervisor support mediates the adverse effect of operational stress on Turkish National Police (TNP) employees' burnout levels.

Since there is no significant relationship between supervisor support and work-related burnout at $p \leq .05$ ($\beta = -0.097$), the eighth and ninth research hypotheses are not supported. The revised SEM found no statistical evidence that the relationship between either organizational stress or operational stress and work-related burnout is mediated by supervisor support.

H_{10}: Supervisor support mediates the adverse effect of organizational stress on Turkish National Police (TNP) employees' job satisfaction levels.

The results of revised SEM show that organizational stress has a significant and negative relationship with supervisor support, with a regression coefficient value of -.14; and that a positive correlation exists between supervisor support and job satisfaction, with a correlation coefficient of .70 at $p \leq .05$. Since the relationship between organizational stress and job satisfaction (direct effect) is significant ($\beta = -0.106$) at $p \leq .05$, this result means that supervisor support partially mediates the relationship between organizational stress and job satisfaction.

H_{11}: Supervisor support mediates the adverse effect of operational stress on Turkish National Police (TNP) employees' job satisfaction levels.

Operational stress has a significant and negative relationship with supervisor support, with a regression coefficient value of -.107, and a positive association was found between supervisor support and job satisfaction, with a correlation coefficient of .70 at $p \leq .05$. Since the relationship between operational stress and job satisfaction (direct effect) is insignificant at $p \leq .05$, this result confirms that supervisor support fully mediates the relationship between operational stress and job satisfaction. The hypothesis testing results are displayed in Table 25.

Table 25: Summary of Hypothesis Testing Results

	HYPOTHESSES	RESULTS
H1	Turkish National Police (TNP) employees' organizational stress is negatively associated with their job satisfaction levels.	SUPPORTED
H2	Turkish National Police (TNP) employees' operational stress is negatively associated with their job satisfaction levels.	NOT SUPPORTED
H3	Turkish National Police (TNP) employees' organizational stress is positively associated with their burnout levels.	SUPPORTED
H4	Turkish National Police (TNP) employees' operational stress is positively associated with their burnout levels.	SUPPORTED
H5	Turkish National Police (TNP) employees' organizational stress is more influential than operational stress on their job satisfaction levels, holding demographic and organizational factors constant.	SUPPORTED
H6	Turkish National Police (TNP) employees' organizational stress is more influential than operational stress on their burnout levels, holding demographic and organizational factors constant.	SUPPORTED
H7	Turkish National Police (TNP) employees' self-reported job satisfaction levels are negatively associated with their burnout levels, holding demographic and organizational factors constant.	SUPPORTED
H8	Supervisor support mediates the adverse effect of organizational stress on Turkish National Police (TNP) employees' burnout levels.	NOT SUPPORTED
H9	Supervisor support mediates the adverse effect of operational stress on Turkish National Police (TNP) employees' burnout levels.	NOT SUPPORTED
H10	Supervisor support mediates the adverse effect of organizational stress on Turkish National Police (TNP) employees' job satisfaction levels.	SUPPORTED (PARTIALLY MEDIATED)
H11	Supervisor support mediates the adverse effect of operational stress on Turkish National Police (TNP) employees' job satisfaction levels.	SUPPORTED (FULLY MEDIATED)

To explore the extent to which both organizational and operational stress affect the wellbeing of TNP members through their impacts on job satisfaction, and work-related burnout, this study developed a conceptual framework for examining the relationship between organizational and operational stress, and job satisfaction and work-related burnout. The study also inserted the variable supervisor support into a conceptual model to test whether it mediated the relationship between exogenous and endogenous variables. In general, the study findings support the majority of the research hypotheses. Two distinct findings of the study are as follows: first, organizational stressors are more influential than operational stressors in determining both work-related burnout and job satisfaction levels of TNP members, a finding that is consistent with previous study findings. Secondly, supervisor support mediates the relationships of both organizational stress and operational stress with job satisfaction, but not those with work-related burnout. In the following section, the results of research hypotheses are discussed in detail. Limitations of the study are mentioned and a few directions for future researchers are presented.

CHAPTER FIVE: DISCUSSIONS, IMPLICATIONS, AND RECOMMENDATIONS

In this section, the results of the research hypothesis are discussed in detail. In addition to the contributions of the study, the theoretical, methodological, managerial, and policy implications are discussed. Limitations of the study are also presented. Finally, recommendations for future research studies are provided.

5.1 Discussions of the Findings

5.1.1 Discussion Related to the Latent Variables

5.1.1.1 Organizational Stress

Organizational stress variable was designed to measure the extent to which organizational factors are perceived as stressful by the TNP members. As explained in the methodology section in detail, the Organizational Police Stress Questionnaire (PSQ-Org) was selected for the purpose of this study because the previous researches that aimed to identify the effects of various organizational stressors on law enforcement officers are qualitative in nature, depending on interviews and observations about specific focus groups (Band and Manuelle, 1987), and existing surveys are too long to be completed readily. Since the researcher of this study is also a member of TNP, twenty questions of PSQ-Org were sent to a small number of TNP members working in different units, to evaluate the understandability and importance of the questions. Guided by the literature review about organizational stress factors (Ellison, 2004; McCaslin et al., 2006; Black, 2003; Kroes, 1985; Violanti and Aron, 1995; Klockars et al., 2006; Stinchcomb, 2004; Leck, Saunders, and Charbonneau, 1996) and the feedbacks from a small number of TNP members, ten

indicators were chosen from the Organizational Police Stress Questionnaire developed by McCreary and Thompson (2006). The indicators selected for the organizational stress latent construct are: favoritism, excessive administrative duties, constant changes in policy and legislation, staff shortage, bureaucratic red tape, perceived pressure to volunteer free time, lack of resources, unequal sharing of work responsibilities, internal investigations, and dealing with the court system.

Evaluation of the standardized regression weight of each indicator on organizational stress found that all factor loadings were significant at $p \leq .05$. Although they are significant, four indicators were removed from the measurement model because of their low factor loadings (below the .05 threshold level), to obtain a better model fit.

The results of the revised measurement model of organizational stress, which includes six indicators, strongly supports the reliability and validity of this latent construct (Cronbach's alpha: .791; Composite Reliability Index: .828; Chi-square associated p value: .13).

Among the six indicators, the indicator perceived pressure to volunteer free time has the strongest impact on the latent variable of organizational stress, with a regression coefficient of .68, followed by the indicators lack of resources and bureaucratic red tape with regression coefficients of .66 and .65 respectively. According to the researcher's experience, these results are consistent with the current TNP structure. That is especially the case for officers working in the field, not in the headquarters: since leaving work in the field on time but without taking permission from the supervisors is considered unwillingness or reluctance for the job, many officers feel pressured to wait for permission from the supervisor before they can leave work

though they do not like that constraint. The fact that perceived pressure to volunteer free has been found to be the greatest organizational stress factor in TNP is an expected result consistent with the working conditions of many TNP members.

Lack of resources was found to be the second strongest indicator of organizational stress. Constant requests for new equipment that are ignored by supervisors and the administration create strain and stress, which in turn reduce job satisfaction and increase employee burnout. Other remaining indicators: bureaucratic red tape, unequal sharing, excessive administrative duties, and staff shortage show moderate regression weights for the measurement model of organizational stress (.65; .61; .59; .58 respectively).

The Correlation Matrix Table (See Appendix E, Table 26) shows a significant and positive relationship between gender and the indicator excessive administrative duties, at $p \leq .05$ with a corresponding value of .096. Since female was coded as a reference group, this result indicates that male police officers perceive excessive administrative duties to be more stressful than their female counterparts do. A possible explanation for this situation is that since policing is considered a man's job by the police organizational subculture (Kucukuysal, 2008), and real policing is considered to be only working in the field (Bastemur, 2006), it is the male officers who resent excessive administrative duties more, as unnecessary and a waste of time.

5.1.1.2 Operational Stress

The operational stress variable, with ten indicators, was designed to measure the extent to which operational factors of policing are perceived as stressful by TNP employees.

Ten indicators were chosen from the Operational Police Stress Questionnaire (PSQ-Op), based on the review of operational stress factors mentioned in the literature on policing (Finn and Tomz, 1997; Wright 1999**;** Violanti and Paton, 1999; He et al, 2002; Ellison, 2004; Dowler, 2005; Burke and Mikkelsen, 2006; Dowler and Arai, 2008), and on the feedback from a small number of TNP members. The indicators selected for the organizational stress latent construct are: shift work, overtime demands, risk of being injured, exposure to traumatic events, managing social life outside the job, occupation-related health problems, lack of understanding from family and friends, negative comments from public, and feeling of being always on the job.

According to the CFA results, three indicators were removed from the measurement model because of their low factor loadings. All remaining factor loadings range between .59 and .81 and are significant at $p \leq .05$. Strong support was observed for the reliability and validity of this latent construct, with Cronbach's alpha score of .890, Composite Reliability Index score of .895, and Chi-square associated p value of .431.

Three indicators: managing social life outside the job, occupation-related health problems, and not finding time to stay in good physical condition produced the highest factor loading scores for the operational stress latent construct, all with approximately the same factor loading of .81. Overtime demands and feeling of being always on the job also have high factor loadings, with regression coefficients of .74 and .71 respectively.

The results are completely consistent with the current situation of TNP and previous findings related to these problems. In terms of working structure, TNP employees, mostly, officers, who work in operational units and police stations, work six days a week. Employees in

nonoperational units, however, work only on weekdays. Moreover, for extra-big public events such as sports games, and for riots, all employees regardless of their working units are assigned to extra work for which the finish time is not definite, but are required to be ready on the job the next day without being allowed a rest. Unfortunately, especially in big cities, such extra events occur frequently. The extra assignments are one of the most challenging problems of TNP members, since they have no ability to plan reliably for leisure, such as going outside with family or friends on weekends, and for finding time to stay in a good physical condition by engaging sporting activities. This result is consistent with the findings of the study conducted by Yildiz (2008), "Determinants of the Well-being of Police Officers in the Turkish National Police:" "Extra police duties are the most complained-about and reported cause of dissatisfaction with policing in the TNP. Several policy suggestions have been made to address extra police duties, but little has been accomplished" (p.127).

To explore the relationships between the operational stress indicators and control variables, the Correlation Matrix Table (See Appendix E, Table 27) was created. Significant and positive correlations among the seven indicators of operational stress (overtime demands, managing social life outside the job, occupation-related health problems, not finding time to stay in good physical condition, lack of understanding from family and friends, negative public comments, and feeling of being always on the job) and the control variable shift were found significant at $p \leq .01$. Since regular shift work was coded as a reference group, these correlation statistics indicate that employees working irregular shifts perceive these operational factors to be more stressful than those working regular work shifts do. Given the facts that those working in operational units and police stations are assigned to extra events more often than those working

in nonoperational units are, because they are experienced in dealing with problematic social events, and that nonoperational units and police stations usually work with irregular shifts, these results are not surprising. The frequency of extra assignment leaves no room for TNP employees to maintain social lives and take care of themselves adequately. The researcher's own observation is that one of the main problems for many TNP employees is that they do not have enough time to spend for themselves and their loved ones, because of their work schedules.

Another important finding is the negative and significant correlation between the control variable education and overtime demands ($r = -.113$, $p < .01$). This result shows the importance of education for overcoming stressful factors since, as the education level of employee increases, overtime demands begin to be perceived by the employees as less stressful.

5.1.1.3 Work-related Burnout

Work-related burnout, an endogenous latent variable of the study, was designed to measure the TNP employees' perceptions of their work-related physical and psychological exhaustion. The Copenhagen Burnout Inventory (CBI) subscale for work-related burnout, developed by Kristensen, Borritz, Villadsen, and Chritensen (2005), was sused. The indicators selected for the work-related burnout latent construct are: emotional exhaustion, feeling of burnout because of work, frustration, feeling worn out at the end of the working day, being exhausted in the morning at the thought of another day at work, feeling that every working hour is tiring, and having no energy for family and friends during leisure time.

The measurement model of work-related burnout was examined using CFA. The CFA demonstrated that the factor loadings of all indicators are satisfactory and have adequate validity except for the indicator emotional exhaustion. Even though the emotional exhaustion indicator showed significant factor loading on the measurement model of work-related burnout, it was removed from the model because its factor loading did not surpass the established threshold of .50. All remaining six indicators are significant at $p \leq .05$ and surpass the threshold, ranging from .73 to .84, which are highly satisfactory. The highest factor loading is produced by the frustration indicator, with a regression coefficient value of .84, followed by the indicator of feeling that every working hour is tiring, which has a regression coefficient value of .81. Given that all factor loadings are greater than .70, the Cronbach's alpha score of .905, and the Composite Reliability Index score of .911, it is confirmed that the measurement model of work-related burnout is conceptualized as a valid and reliable construct.

The correlation analysis comprising the six indicators of work-related burnout and six control variables was conducted to explore the relationships among them (See Appendix E, Table 30). As expected, there are significant and negative correlations between all the indicators of work-related burnout and the control variable rank. Since all the correlations' directions are negative, these relationships reveal that as employees' ranks increase, their levels of perceived burnout decrease. One possible explanation for this relationship is that high rank officials have more authority and control over work-related issues even though they have more accountability and responsibility. In contrast to other employees, high rank officials may be able to set up their work schedules according to their expectations and tasks. This could be the reason that they report lower levels of burnout than low rank officials and non-ranked employees do.

Another important observation is that the education indicator failed to demonstrate significance correlations with work-related burnout indicators except for the frustration indicator. This finding means that education level does not have significantly influence the burnout levels of TNP members.

5.1.1.4 Job Satisfaction

Job Satisfaction, the other endogenous latent construct of the study, was measured by nine indicators. Spector's widely used Job Satisfaction Survey (JSS, 1985) was used to measure the perceived job satisfaction levels of TNP members, since this survey is considered one of the most applicable surveys for a broad diversity of occupations (Blood et al., 2002). Another important reason for this survey's widely use is that it provides highly satisfactory reliability scores across different countries (Bruck et al., 2002; Schmidt, 2007).

JSS includes nine subscales, each measured by four questions. These nine subscales are: pay, promotion, supervision, benefits, contingent rewards, operating procedures and policies, relationships with coworkers, nature of work, and communication level within the organization. In order to reduce the burden of completing the survey, one question was selected to represent each subscale as many scholars have done, to the personal knowledge of the researcher.

Confirmatory Factor Analysis was used to evaluate the validity and reliability of the job satisfaction latent construct. The results of CFA revealed that all factor loadings are significant at $p \leq .05$. Only one indicator, pay, was removed from the measurement model, because its factor loading (.41) was below the threshold; the associated question was "*I feel I am being paid a fair*

amount for the work I do." With this indicator removed, all remaining eight indicators show highly satisfactory factor loadings on job satisfaction, ranging from .68 to .80. The highest factor loading was produced by the indicator communication, and the lowest factor loading among these job satisfaction indicators was produced by the indicator promotion.

With the Cronbach's alpha score of .906, a Composite Reliability Index score of .895 and Chi-square associated p value of .143, the revised measurement model of job satisfaction indicated strong support for the reliability and validity of this scale. Therefore the revised measurement model of job satisfaction is confirmed as a reliable and valid construct.

The correlation analysis involved the nine dimensions of job satisfaction and six control variables (see Appendix E, Table 29). There are positive and significant associations between rank and all job satisfaction indicators, and between education and all job satisfaction indicators at $p < .01$ (only one association is significant at $p < .05$: between education and pay). These significant associations confirm that rank and education levels of TNP employees have a strong and positive influence on their perceived job satisfaction levels. A positive relationship between education and job satisfaction indicators is consistent with prior researches (Gatson, 2002; Newhall, 2000). On the other hand, the control variables of tenure, age, gender, and shift failed to demonstrate significant relationships with job satisfaction indicators.

5.1.1.5 Supervisor Support

Supervisor support was conceptualized as a latent construct having seven indicators. It was designed to measure the extent to which support is given to TNP employees by their

supervisors, by using the seven items in the Job Content Survey (Karasek et al., 1985). A measurement model of supervisor support was developed and validated through CFA.

The standardized regression weight of each indicator on supervisor support was assessed. All factor loadings were found to be significant at $p \leq .05$. One indicator (*Criticize*) was excluded from the measurement model because of its low factor loading (below the .05 threshold), to obtain a better model fit. One reason that the indicator criticize had a lower factor loading than others may be that since it is a reverse item some respondents might not have given adequate attention to assessing the question.

The revised measurement model of supervisor support indicates that all remaining six indicators are significant at $p \leq .05$ and surpass the threshold, ranging from .76 to .87, highly satisfactory results for indicators. The highest factor loading was produced by the indicator being helpful in getting the job done, with a regression coefficient value of .87, followed by the indicators paying attention to what subordinates say, and being successful in getting people to work together, both with the approximately the same regression coefficient value of .81. With the Cronbach's Alpha score of .918, Composite Reliability Index score of .919 and Chi-square associated p value of .066, the revised measurement model of supervisor support indicates strong support for the reliability and validity of this scale.

Correlation Matrix Table (See Appendix E, Table 28) was conducted to explore the relationships between the supervisor support items and control variables. Significant and positive correlations between each of the six items of supervisor support and the control variable rank were found at $p \leq .01$. The correlations range from .168 to .279. Significant and positive

correlations were found between four items of supervisor support (being helpful in getting the job done, having concerns about the welfare of subordinates, giving credit for well done things, not criticizing for small things, and backing up when there is problem) and the control variable education, at $p \leq .01$. These statistical correlations reveal that rank and education significantly contribute to the perception of supervisor support by TNP employees. As education levels of TNP employees increase, they begin to view supervisor support more positively. The same significant effect is seen for the control variable rank. According to the best understanding of the researcher, one possible explanation for this situation may be that as the rank of the TNP employee increases, they begin to have empathy, meaning that they understand their supervisors' role towards subordinates better, since they face the same situations as their supervisors have. Then, they give their supervisors more credits.

5.1.2 Discussion of Structural Equation Modeling

The purpose of the study was to understand the relationship and the direction of the relationship between occupational stress (both organizational and operational) and job satisfaction and burnout levels of law enforcement officers in the TNP.

Kahn and Byosiere's (1992) theory, conceptualizing the source of stressors in organizational life, physiological, psychological (e.g., depression, reduced job satisfaction), and behavioral responses to stress and its consequences of stress for health and illness-related problems (e.g., heart attack, burnout, diminished concentration), decreased personal performance in other life roles, and decreased organizational performance (e.g., turnover, absenteeism), suggests that the characteristics of police organization itself are a greater source of stress than

the operational stress factors in police work (Shane, 2008). This theory also suggests that the relationship between these stressors and their consequences is mediated by either personal or situational characteristics.

Based on the theoretical framework of the study and the findings of literature review, the main research question that was addressed in this study was "What are the influences of occupational stress on the wellbeing of TNP members?" The previous sections have explained the several sub-research questions and hypotheses that were formulated. To address the research questions and test the hypotheses, for each endogenous variable the values of explained variance and the regression path coefficients of the hypothesized model were evaluated.

The first research question addressed is whether there is a relationship between Turkish National Police (TNP) members' perceived stress (organizational stress and operational stress) and job satisfaction. The results of analyzing the influence of organizational stress on job satisfaction reveal a negative and significant relationship ($\beta = -0.11$, $p < 0.05$). This result is consistent with previous studies (Price and Mueller, 1986; Violanti and Aron, 1994; Stinchcomb, 2004). The finding indicates that TNP employees' job satisfaction levels are negatively influenced by organizational stressors. In other words, the more TNP employees experience their organization as stress inducing, the lower their job satisfaction levels. Since the identified organizational stressors are within the agency's control, police executives of TNP should invest significant time and money to reform policy and managerial aspects of TNP.

Although the literature on police stress has recognized that organizational stress is more prevalent than operational stress, the significant effects of operational stress on job satisfaction,

too, have been well documented. Therefore a negative and significant relationship between operational stress and job satisfaction was hypothesized. However, the present study found that operational stress has no significant effect on job satisfaction even though the direction of the relationship is negative as hypothesized ($\beta = -0.11$, $p < 0.05$). This result is not consistent with previous studies (Preston, 1996; Alexander and Walker, 1996; Violanti, 1997). One reason that operational stress has no direct significant effect on job satisfaction may be that the relationship between operational stress and job satisfaction is mediated by the variable of supervisor support. As explained by Kahn and Byosiere's (1992) theory, stressors in organizations may be mediated by certain properties of the situation such as supervisor and co-worker support and characteristics such as personality traits. Since the relationship between operational stress and job satisfaction (direct effect) was found in this study to be insignificant at $p \leq .05$ that indicates that supervisor support fully mediated the relationship between operational stress and job satisfaction. Though the relationship between organizational stress and job satisfaction was found to be significant, when supervisor support was inserted in the model the effect of organizational stress on job satisfaction was diminished. This result shows that supervisor support partially, not fully, mediated the relationship between organizational stress and job satisfaction. These two results are consistent with Kahn and Byosiere's (1992) theory, suggesting that as supports from supervisor increases, job satisfaction increases and both organizational and operational stress decrease. The results are also consistent with previous studies (Etzion, 1984; Cohen and Wills, 1985; Moyle, 1998; Shelton, 2007).

The significant and positive association between supervisor support and job satisfaction, with a correlation coefficient of .70 at $p \leq .05$ is an indication of the importance of supervisors'

management style. This result suggests that successful interventions can be created by focusing on the management style of supervisors in TNP. The bureaucratic nature of police organizations that increases the social distance between the ranks is an important challenge for TNP because this structure erodes effective communication within the organization, which in turn damages individual and organizational outcomes.

The second research question addressed whether there is a relationship between Turkish National Police (TNP) members' perceived stress (organizational stress and operational stress) and work-related burnout. It was hypothesized that both organizational and operational stress are positively associated with work-related burnout levels of TNP members. Consistent with previous studies (Stearns and Moore, 1993; Sauter and Murphy, 1995; Zhao et al., 1999; Schaufeli and Bakker, 2004; Halbesleben and Buckley, 2004), this study found that both organizational and operational stress have positive and significant effects on work-related burnout ($\beta = 0.238$; $\beta = 0.127$ respectively at $p < 0.05$).

In contrary to the significant effect of supervisor support on job satisfaction, supervisor support did not make a statistically significant contribution to work-related burnout. Therefore, in contradiction of the causal theory, supervisor support did not mediate the relationship between either organizational or operational stress with work-related burnout. A possible explanation is that though work-related burnout levels were measured here, other factors such as family problems may be the reasons for burnout levels. Thus, even if supervisors give significant support to their subordinates, that support might not affect the burnout levels of TNP employees as much as it might affect the job satisfaction levels. In sum, the results of the present study

suggest that as organizational and operational stress increase, work-related burnout also increases and the relationship is not mediated by supervisor support.

To understand the relative importance of organizational and operational stress on job satisfaction and work-related burnout of TNP employees, standardized regression weights of both organizational and operational stress were checked, since standardized regression weight tells the relative influence of the exogenous variables on the endogenous variable. The results of the present study reveal that organizational stressors have more influence than operational stress on both job satisfaction and burnout levels of TNP employees. Organizational stress has relatively higher regression weight than that of operational stress on job satisfaction, with a regression coefficient of-.106 (compared to -.013). For the endogenous variable of work-related burnout, the same result was obtained, organizational stress having a relatively higher regression coefficient with a value of .238 (compared to .127). These findings are similar to those of previous studies (Kroes et al., 1974; Band and Manuelle, 1987; Alexander et al., 1991; Crank and Caldero, 1991; Violanti and Aron, 1995; Davey et al., 2001; Toch et al., 2002; Zhao, 2002; Kohan and Mazmanian, 2003; Miller, 2005).

Based on Kahn and Byosiere's (1992) theory and previous studies (Violanti and Aron, 1994; Judge et al., 2001) indicating a strong association between job satisfaction levels and many individual and organizational outcomes, and a strong and positive relationship between high levels of job satisfaction and the psychological wellbeing of police officers, it was hypothesized that job satisfaction is negatively associated with work-related burnout. The finding of a significant and negative association between job satisfaction and work-related burnout (β= -0.37,

$p < 0.05$) supported the hypothesis. This result shows that as the job satisfaction levels of TNP employees increase, their burnout levels decrease.

In addition to the important finding that organizational stressors are more influential than operational stressors on job satisfaction and work-related burnout levels of TNP employees, a significant and positive association between organizational and operational stress ($r= 0.17$, $p < 0.05$) revealed that there is no strict line between organizational and operational stressors. They are correlated with one another. An organizational stressor could act as the trigger for an operational stressor, and vice versa. Therefore; any policy implication for eliminating negative consequences of occupational stress should take into account organizational and operational stress factors simultaneously to obtain successful results.

56 % of the total variation in the job satisfaction variable is explained by the variables of organizational stress, operational stress, supervisor support, and the control variables of education and rank collectively. On the other hand, predictor variables of organizational stress, operational stress, job satisfaction, and supervisor support account for 34 % of the total variance in work-related burnout. Statistical analysis of this model could be made safely on the basis of these results.

5.1.3 Discussion on Control Variables

The six demographic variables: education, rank, gender, tenure, age and shift were inserted into the model to evaluate their effects on work-related wellbeing of TNP employees as measured by job satisfaction and work-related burnout.

Previous research suggests that as education increases, the level of stress experienced decreases, and job satisfaction increases. The findings of the present study show that the education level of TNP employees ($\beta = 0.14$, $p < 0.05$) and their rank ($\beta = 0.08$, $p < 0.05$) make statistically significant contributions to their job satisfaction levels. The more educated the TNP employees are, the more they tend to express high levels of job satisfaction. Hierarchical rank is also significantly related to the job satisfaction levels of TNP employees. As rank increases, employees are more likely to have high levels of satisfaction. These significant results are also observed in the correlation analysis exploring the associations between the indicators of job satisfaction, and education and rank. Positive and significant associations between rank and all job satisfaction indicators and between education and all job satisfaction indicators at $p < .01$ demonstrate that the rank and education levels of TNP employees have a strong and positive influence on all dimensions of job satisfaction.

The researcher expected to find a similarly significant association between education and work-related burnout; previous research suggests that as education increases, burnout levels decrease. However, the data in this study show an inverse relationship, although it is not significant. This may due to the phenomenon noted by Asen and Colon (1995) and Violanti (1999): more educated people are more likely to question the efficacy of rules and procedures. The quasi-military structure of law enforcement organizations creates more stress for officers with high levels of education than for their less educated counterparts, since under strict command structure they are not likely to be allowed to apply their education. This situation might make them bored and exhausted.

This study observed no significant gender differences in the job satisfaction and work-related burnout levels reported by TNP employees. Since findings of previous studies are mixed in terms of gender differences, this finding is not surprising. While the studies of Wertsch (1998) and Bartol et al. (1992) found that male officers experience lower levels of stress than their female counterparts do, the study of Norvelle et al. (1993) found that male officers reported higher levels of stress, dissatisfaction, and exhaustion than female officers did (cited in Dowler and Arai, 2008).

The present study found the effects of age, years of service (tenure), and type of shift on job satisfaction and work-related burnout levels of TNP employees to be insignificant.

5.2 Implications

The primary research question this study sought to answer is the nature of the relationship between reported organizational and operational stressors, and job satisfaction and work-related burnout. The findings of the study support the hypotheses that the more police officers perceive their organization to be stress inducing, the lower their job satisfaction and the higher their work-related burnout. This study finding also indicates that the relationship between organizational stress and job satisfaction is partially mediated by the supervisor support.

In terms of the effects of operational stress on two important endogenous variables, the findings reveals that the more police officers perceive work-related factors to be stressful; they are more likely to report high levels of burnout. It was found that operational stress is not significantly related to the job satisfaction levels of TNP employees. This insignificant

relationship between operational stress and job satisfaction might be accounted for the effect of supervisor support as mediator, since supervisor support was found to be strong mediator for the relationship between operational stress and job satisfaction.

Another important finding of this study is that the effects of both organizational and operational stress on work-related burnout are not mediated by supervisor support, since direct effect from supervisor support to work-related burnout was found to be insignificant.

In terms of the relative importance of the two types of occupational stressors, this study's findings reveal that organizational stressors are more influential than operational ones in determining the job satisfaction and work-related burnout levels of TNP employees.

It is very important to recognize that the success of any law enforcement agency depends upon the wellbeing of its members. Therefore, as emphasized by Crank (1998), it is incumbent on the agency to support its employees in order to overcome their stressful work environments. From the findings of this study it seems that the current configuration of TNP does not provide a work climate that could reduce organizational stressors and in turn improve officers' wellbeing and, thus the quality of service delivery. Improving officer wellbeing and the quality of TNP service delivery requires a strong commitment to and investment in personnel. Such investment is, of course, a long-term process. Given the finding that supervisors act as mediators reducing the impacts of stressors, it is highly recommended to invest in the managers and supervisors of TNP in addition to changing its current organizational structure.

In the light of these findings, this study has several theoretical, methodological, managerial and policy implications. These implications are discussed in detail in the following sections.

5.2.1 Theoretical Implications

Kahn and Byosiere's (1992) theory was used as the main theoretical framework for the purpose of this study. Kahn and Byosiere's (1992) theory, conceptualizing the source of stressors in organizational life, physiological, psychological (e.g., depression, reduced job satisfaction), and behavioral responses to stress and its consequences of stress for health and illness-related problems (e.g., heart attack, burnout, diminished concentration), decreased personal performance in other life roles, and decreased organizational performance (e.g., turnover, absenteeism).

Kahn and Byosiere's (1992) theory suggests that the characteristics of organization itself are a greater source of stress than the operational stress factors inherent in work, and that the effects of stressors in an organization are mediated by properties of the person (locus of control, self-esteem) and properties of the situation (co-worker and supervisor support) (Shane, 2008). This study's results indicate that organizational stressors are more prevalent than operational stressors in determining the level of job satisfaction and the burnout levels of TNP employees, and that the effects of both operational and organizational stressors on one of the psychological responses to stress, job satisfaction, are mediated by the situational mediator, supervisor support. The findings of this study are consistent with some of the principles of Kahn and Byosiere's (1992) causal theory. The concept that supervisor support acts as a mediator for the relationship

between the organizational and operational stressors and job satisfaction is highly supported by this study, but it is not supported for work-related burnout.

Kahn and Byosiere's (1992) causal theory could be extended by including more operational and operational stressors that might influence personal and organizational outcomes.

5.2.2 Methodological Implications

One of the important methodological strengths of this study is to quantify both the organizational and the operational stressors facing police officers using a domain-specific instrument that is designed to capture the stressors unique to policing. Rather than using job stress instruments that include generic stressors applicable to various occupational groups, the Organizational and Operational Police Stress Questionnaire developed by McCreary and Thompson (2006) was used to quantify the level of organizational and operational stressors of TNP employees, which increases the validity of the measurement of these constructs.

Another important methodological strength of the study is that, as explained in the methodology section, the Maslach Burnout Inventory (MBI) has been widely used by many researchers. However, this inventory includes generic burnout questions that cannot differentiate personal and work-related burnout. Since this study aimed to measure the burnout level of TNP employees with regarding to their jobs, the Copenhagen Burnout Inventory (CBI), including three scales for use in different domains - personal burnout, work-related burnout, and client-related burnout - was selected. The work-related burnout subscale provided this study with the opportunity to evaluate the effects of organizational and operational stress on the work-related

burnout levels of TNP employees. The measurement model of work-related burnout was validated through confirmatory factor analysis and indicated highly satisfactory reliability scores. Therefore it is believed that the Copenhagen Burnout Inventory's work-related burnout subscale is a reliable and valid instrument for those who are really trying to measure the burnout caused by people's work.

5.2.3 Managerial Implications

Based on the finding that supervisor support mediates the relationship between both organizational and operational stress and job satisfaction levels of TNP employees, it is very important to support TNP employees by their supervisors not only to increase their work-related wellbeing, but also improve the organizational performance.

Like many police organizations, TNP is a highly centralized and hierarchical organization whose members are expected to behave according to prescribed rules and regulations without questioning them. Especially in operational units and police stations, mangers of TNP rarely consider their employees' views when they make decisions affecting them. An egregious example is that it is not rare for employees to be unable to take annual leave because of the intensity of the work load.

As cited for by Shane (2008), to improve police performance, the rigid hierarchical structure of TNP must be changed by fostering organizational democracy. Officers should be given more decision-making authority and increased responsibility. Police managers should act in such a way that subordinates have more voice in decisions, especially those affecting them.

Providing constructive feedback to their employees about their performance is also a vital step for supervisors. Giving the employees more decision-making authority, increased responsibility, and constructive feedback definitely raises their self-esteem, commitment and dedication to the organization and that in turn increases both the well-being of TNP members and organizational performance. One of the important aspects of organizational democracies is to increase the informal relations among employees in the name of increasing social capital. The importance of informal interactions in increased organizational performance is stated by Sahin (2010):

> Informal structures shaped by informal interactions among members within an organization may also be an important factor for organizational performance. Therefore, the informal structure of the departments should also be taken into account by police managers in the management process (p. 160).

Unequal sharing of work responsibilities among police officers is noted as an organizational stressor reported by the TNP employees. This may due to the lack of formal process for assignments, or division managers of TNP may rarely exercise the formal process for assigning work to their employees. The study findings indicate that work responsibilities are not evenly distributed among employees. My experience is that like everyone else, police managers want to work with the officers who are really trying to do their best, so those who are not adequately qualified to do good jobs are not given responsibilities. However, this situation increases the burden of work on qualified personnel. The jobs that are expected to be distributed evenly among all personnel are distributed more to the qualified personnel. If they are not appropriately rewarded, it appears that qualified personnel are being punished for the quality of their work. Providing more training opportunities and financial rewards and granting better work hours to the more successful personnel could be considered.

5.2.4 Policy Implications

The findings of this study, indicating that organizational stressors are more bothersome than operational ones for the job satisfaction and work-related burnout levels of TNP employees, illustrate a need for internal policy reform and managerial change in how the executives of TNP organize their agencies and policies, since specific organizational stressors are within the agency's control but members of TNP are constrained by rules and policies that infringe upon their actions, leaving them little or no control over certain policies and situations.

Evaluating the measurement model of organizational stress revealed that the scheduled working hours are no longer a major problem for TNP employees. The findings of this study provide support for policies to improve the working hours of TNP employees, implemented by the TNP in recent years. However, overtime demands that make employees subject to extra assignments are still a major problem. My experience and observation is that because of these extra assignments many TNP employees do not have the chance to make plans such as going outs with family or friends on weekends or on weekdays after the regular work hours. Instead of giving every member of TNP a fixed amount of money for extra assignments regardless of what they have done, setting financial incentives for each extra assignment could solve this problem to some extent. After determining financial incentives for each extra assignment, making assignments voluntary is a crucial step that should be taken. To solve the problem of demanding overtime is important because many other problems such as having difficulties in managing social life outside the job, not finding time to stay in good physical condition, and health

problems are other operational factors noted by the TNP employees as stressful, and all of them are directly related to the demand for overtime.

Since employees in operational units and police stations are assigned to extra events more than those working in nonoperational units are because of their experience in dealing with problematic social events, but they do not get extra pay for such assignments, many employees no longer prefer those units. Many try to escape them for places where extra assignments are rarely made. To eliminate the negative feelings and make those places more attractive, re-designing their working hours as well as salary increases are recommended.

In spite of the negative factors affecting the work-related well-being of TNP employees and organizational performance, the TNP is one of the public organizations in Turkey that have shown the most substantial improvements over the last decade. The initiatives to increase the educational levels of TNP employees can be considered one of the important cornerstones of this improvement.

This study's findings offer strong support for the educational policies carried out by the TNP in recent years, since education was found to be a significant factor in increasing job satisfaction. As mentioned in the descriptive analysis section, in 2001 new requirements were established for recruits to become police officers. Instead of simply six or nine months training, a two-year college degree was mandated. In addition, all members of TNP are now encouraged to pursue more education by providing them an opportunity. Those who qualify are given written permission to pursue their master or doctoral degrees for a specific period of time at various universities in Turkey. On the other hand, scholarship have been awarded to qualified TNP

employees to pursue graduate degrees in selected United States and European countries' universities as well as to take short-term in-service training in the United States and European countries since 1999. According to the study findings that education has significant associations with all dimensions of job satisfaction and it has a significant effect on job satisfaction in the overall structural model, which findings are consistent with the suggestions of Kucukuysal (2008), it is suggested that such educational initiatives should be given more impetus.

In terms of the basic education of police officers, it is important to prepare police candidates both in the police academy and in police vocational high schools for the stress they will come across when they leave their educational settings. Significant time should be devoted to stress management and prevention courses.

Another important finding of the study is that staff shortage is one of the important organizational stressors reported by TNP employees. That result is not surprising because of the multiple tasks in the police job description, many of them, unfortunately, not directly related to policing. For example, court bans are delivered by police officers in person even though this process could be done by the postal service. Another example: in most developed countries, at sports events security is provided by private security companies and a small number of police are assigned for controlling overall security. However, in Turkey, ten thousand police officers are assigned at one soccer game to secure the area. These kinds of jobs, not directly related to the job of policing, prevent the effective and efficient use of police officers in actual policing. Therefore, it is very important to update and re-arrange the job description of TNP.

5.3 Limitations

The first limitation of the study arises from the research design; cross-sectional research is preferred by the researcher, like many others, as a time saving and efficient method to test the research hypotheses. However, cross-sectional research, gathering the data at one point in time, has been questioned for lack of temporal precedence, meaning that a time-order sequence cannot be established to infer causation (Shadish, Cook and Campbell, 2002).

Another limitation of the study is the data collection method. This study uses a self-report survey as the primary data source, which makes it subjected to the method variance problem to some extent. Although the reliability and validity of the self-reported surveys used in this study have been shown as high by many previous studies, and though self-reported surveys are considered reasonable reflections of actual behavior, the validity of self-reported data is always questionable. Utilization of multiple methods and sources such as agency records, interviews, and first-line managers' evaluations could help researchers collect and analyze more valid data on the effects of organizational and operational stressors on the work-related wellbeing of police officers.

Since the primary goal of the study is to elicit the relationships between abstract concepts: occupational stressors and the work-related wellbeing of TNP employees, construct validity is another important limitation. Construct validity refers to the extent to which the developed scales measure the theoretically driven constructs. Even though the latent constructs of the study were measured by multiple indicators with the aim of reflecting all dimensions of the construct, there may be other relevant items that were not included in the measurement

models of latent constructs. By using the confirmatory factor analysis to validate the latent constructs of the study, an effort was made to minimize the construct validity threat.

Although a guarantee was given that participants' responses would be kept confidential as they were asked to report their perceptions about organizational and personal attributes - all considered potentially sensitive topics especially in highly hierarchical organization - participants might not have answered as they thought. Participants might have answered questions by altering their original responses.

The random selection of the sample from its target population is one of the important strengths of the study in terms of representativeness of the sample. As stated in the methodology section, the sample was selected from seven cities, each representing one geographical region. Given the fact that Turkey has eighty-one cities, drawing the sample from only seven cities might seem to be a problem for representativeness. However, since these selected seven cities are the largest cities in their regions and their total TNP personnel accounts for approximately half of the entire TNP population, it is safe to conclude that this study's results can be generalized to the population.

5.4 Future Research

A few directions for future researchers with the aim of understanding the causal processes between organizational and operational stressors and police work-related wellbeing are suggested.

As stated earlier, this study utilized Kahn and Byosiere's (1992) theory suggesting that organizational factors are greater sources of stress than operational factors and that the effects of stressors in the organization are mediated by properties of the person (locus of control, self-esteem) and properties of the situation (co-worker and supervisor support). In this study, only supervisor support was examined as a situational mediator. One interesting direction for future research is to include both situational and personal properties in the model to examine the relative importance of those mediators on the relationship between stressors and personal and organizational outcomes. The role of family support, one of the important social supports, on the work-related wellbeing of law enforcement officers could also be considered an interesting direction for future researchers to observe.

As discussed in the limitations section, this study uses a self-report survey as the primary data source, which makes the study subject to the method variance problem to some extent. In addition, structural equation modeling was used to explore the relationships between variables, which limit the study to the quantitative method. One of the important drawbacks of quantitative research is that nuances of why and how some stressors affect the sample population cannot be observed. With the findings of the present study accepted as the starting point, other qualitative or mixed methods and sources such as agency records, interviews, and first-line managers' evaluations could be used by future researchers to address this topic in greater depth.

Cross-sectional research design, gathering the data at one point in time, was used to examine the research questions and test the research hypotheses, since cross-sectional research allows the researcher disseminate the results in a short period of time so practitioners and policy

makers can draw inferences from the results and make policy decisions to address the issue. However, cross-sectional research has been questioned for lack of temporal precedence. Even though this study's findings are consistent with and in the direction of Kahn and Byosiere's (1992) causal theory and consistent with previous studies, longitudinal research is suggested to reveal the actual causal process of how both organizational and operational stress influences outcomes such as job satisfaction and burnout. Longitudinal research allows the researchers to observe the stability and change in the predictors and their effects on outcome variables over time.

Organizational and Operational Police Stress Questionnaires (PSQ-Org and PSQ-Op) were utilized to measure the extent to which organizational and operational factors are perceived as stressful by the TNP employees. Each questionnaire has twenty questions. Of the twenty questions, the ten questions for both PSQ-Org and PSQ-Op were selected based on the literature review about organizational and operational stress factors and the feedback from a small number of TNP members. Both organizational and operational stress constructs could be measured by future researchers by including all items in the actual questionnaires to reflect the more various dimensions of the constructs.

Another important direction for future research is to conduct multi-group analysis to evaluate whether or not ranking and regular police officers perceive organizational and operational factors as stressful in the same way.

The present study collected demographic data on age, education, gender, tenure, shift type, and rank. Among these six control variables, only education and rank were found to be

significant. Adding more demographic variables and measuring insignificant control variables with more vigorous methods would allow future researchers to examine the effects of more variables on the perceptions of police officers regarding their work-related wellbeing.

5.5 Contributions

This study makes significant contributions to police stress literature, as well as suggesting important implications for TNP managers to increase the wellbeing and reduce the burnout levels of TNP employees. Furthermore, several directions for future researchers are suggested with the goal of better understanding of the relationships between both organizational and operational stress and the work-related wellbeing of police officers.

In Turkey, the effects of organizational and operational stress on police officers' wellbeing and the relative importance of stressors have rarely been examined academically. Yet it is really difficult to create successful intervention policies and obtain successful outcomes without gathering scientific evidence about the roots of a problem.

First, with its significant findings the present study provides strong support to the argument that organizational stressors are stronger predictors than the stressors inherent in policing for the work-related wellbeing of police officers. Second, this study presents directions to help TNP managers understand the impacts of organizational and operational stressors in depth and develop policies of stress interventions and programs to reduce the impacts of stressors on the wellbeing of TNP employees.

APPENDIX A: IRB APPROVAL

University of Central Florida Institutional Review Board
Office of Research & Commercialization
12201 Research Parkway, Suite 501
Orlando, Florida 32826-3246
Telephone: 407-823-2901 or 407-882-2276
www.research.ucf.edu/compliance/irb.html

Approval of Exempt Human Research

From: **UCF Institutional Review Board #1**
FWA00000351, IRB00001138

To: **Sedat Kula**

Date: **July 07, 2010**

Dear Researcher:

On 7/7/2010, the IRB approved the following activity as human participant research that is exempt from regulation:

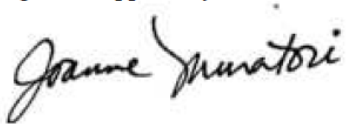
Type of Review:	Exempt Determination
Project Title:	Occupational Stress and Work-related Wellbeing of Turkish National Police (TNP) Members
Investigator:	Sedat Kula
IRB Number:	SBE-10-07002
Funding Agency:	
Grant Title:	
Research ID:	N/A

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these changes affect the exempt status of the human research, please contact the IRB. When you have completed your research, please submit a Study Closure request in iRIS so that IRB records will be accurate.

In the conduct of this research, you are responsible to follow the requirements of the Investigator Manual.

On behalf of Joseph Bielitzki, DVM, UCF IRB Chair, this letter is signed by:

Signature applied by Joanne Muratori on 07/07/2010 11:42:09 AM EDT



IRB Coordinator

APPENDIX B: OFFICIAL RESEARCH PERMISSION LETTER FROM TNP

T.C.
İÇİŞLERİ BAKANLIĞI
Emniyet Genel Müdürlüğü
Dışilişkiler Daire Başkanlığı

Faks No : 00 90 312 466 90 22
Tel : 00 90 312 466 90 10
E-mail : disiliskilerdb@egm.gov.tr

SAYI : B.05.1.EGM.0.76.04.02 / 2939
TARİH : 01/06/2007
KONU :Genel Akademik Araştırma Onayı.
İLGİ :a) 23.03.2007 tarih ve B.05.1.EGM.0.76.04.02. (31004).871/1501 sayılı yazı.
b) 12.04.2007 tarih ve B.05.1.EGM.0.72.02.03-857-1480 sayılı yazı.

GÖNDEREN : Dr. Recep GÜLTEKİN
Dışilişkiler Dairesi Başkanı
1. Sınıf Emniyet Müdürü

GİDECEĞİ YER : Samih TEYMUR (ABD), İsa ÇİFTÇİ (ALM), Fatih YAMAÇ (FR), Fatih ÖZGÜL(İNG),Murat GÜLVER (BELÇİKA)

E-MAIL ADRESİ : tipscontact@gmail.com, yamacfatih@yahoo.fr,isaciftci@yahoo.com, fatih.ozgul@gmail.com ve muratgulver@yahoo.com

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İlgi (a) kayıtlı yazı ile mastır ve doktora yapmakta olan personelimizin eğitim gördüğü kendi alanlarıyla ilgili tez, akademik çalışma, makale gibi akademik araştırmalarda kullanmak üzere; Teşkilatımız bünyesindeki birimlerden gerekli istatistikî bilgilerin alınması ve bazı anket ve mülakat gibi akademik çalışmaların uygulanabilmesi için Emniyet Genel Müdürlüğü Makamından genel bir onay alınması Eğitim Daire Başkanlığı'ndan talep edilmiştir.

Adı geçen Daire Başkanlığı'ndan alınan ilgi (b) kayıtlı yazı ile "Yetiştirilmek Amacıyla Yurtdışına Gönderilecek Devlet Memurları Hakkındaki Yönetmelik" hükümleri çerçevesinde yurtdışındaki üniversitelere mastır ve doktora yapmak üzere gönderilen personelin Genel Müdürlüğümüze bağlı birimlerde ve taşra teşkilatında akademik çalışma yapma talebinde bulunması halinde tez çalışması yapabilmesi uygun görüldüğü belirtilmiş olup Genel Müdürlük Makam Onayın bir sureti ekte gönderilmiştir.

Bilgi ve gereğini rica ederim.

Dr. Recep GÜLTEKİN
Dışilişkiler Dairesi Başkanı
1. Sınıf Emniyet Müdürü

Ek:
İlgi (b) kayıtlı yazı. (2 sayfa)

ADRES: Emniyet Genel Müdürlüğü, Dışilişkiler Daire Başkanlığı
İlkadım Cad. 89/10 (S.Blok) 06100 Y.Ayrancı /ANKARA

APPENDIX C: SURVEY INSTRUMENT

Section 1: Police Organizational Stress

Below is a list of items that describe different aspects of being a police officer. Please use the following response scale to indicate the extent to which you agree with each statement regarding organizational stress. Please choose the scale that is most closely applicable for each statement.

1. The feeling that different rules apply to different people (e.g. favoritism) has caused stress over the past 6 months.

   ( ) Strongly Disagree
   ( ) Disagree
   ( ) Neither Disagree nor Agree
   ( ) Agree
   ( ) Strongly Agree

2. Excessive administrative duties have caused stress over the past 6 months.

   ( ) Strongly Disagree
   ( ) Disagree
   ( ) Neither Disagree nor Agree
   ( ) Agree
   ( ) Strongly Agree

3. Constant changes in policy / legislation have caused stress over the past 6 months.

   ( ) Strongly Disagree
   ( ) Disagree
   ( ) Neither Disagree nor Agree
   ( ) Agree
   ( ) Strongly Agree

4. Staff shortages have caused stress over the past 6 months.

   ( ) Strongly Disagree
   ( ) Disagree
   ( ) Neither Disagree nor Agree
   ( ) Agree
   ( ) Strongly Agree

5. Bureaucratic red tapes have caused stress over the past 6 months.

   ( ) Strongly Disagree
   ( ) Disagree
   ( ) Neither Disagree nor Agree
   ( ) Agree
   ( ) Strongly Agree

6. Perceived pressure to volunteer free time has caused stress over the past 6 months.

   ( ) Strongly Disagree
   ( ) Disagree
   ( ) Neither Disagree nor Agree
   ( ) Agree
   ( ) Strongly Agree

7. Lack of resources has caused stress over the past 6 months.

   ( ) Strongly Disagree
   ( ) Disagree
   ( ) Neither Disagree nor Agree
   ( ) Agree
   ( ) Strongly Agree

8. Unequal sharing of work responsibilities has caused stress over the past 6 months.

   ( ) Strongly Disagree
   ( ) Disagree
   ( ) Neither Disagree nor Agree
   ( ) Agree
   ( ) Strongly Agree

9. Internal investigations have caused stress over the past 6 months.

   ( ) Strongly Disagree
   ( ) Disagree
   ( ) Neither Disagree nor Agree
   ( ) Agree
   ( ) Strongly Agree

10. Dealing with the court system has caused stress over the past 6 months.

    ( ) Strongly Disagree
    ( ) Disagree
    ( ) Neither Disagree nor Agree
    ( ) Agree
    ( ) Strongly Agree

Section 2: Police Operational Stress

Below is a list of items that describe different aspects of being a police officer. Please use the following response scale to indicate the extent to which you agree with each statement regarding operational stress. Please choose the scale that is most closely applicable for each statement.

11. Shift work has caused stress over the past 6 months.

( ) Strongly Disagree
( ) Disagree
( ) Neither Disagree nor Agree
( ) Agree
( ) Strongly Agree

12. Overtime demands have caused stress over the past 6 months.

( ) Strongly Disagree
( ) Disagree
( ) Neither Disagree nor Agree
( ) Agree
( ) Strongly Agree

13. Risk of being injured on the job has caused stress over the past 6 months.

( ) Strongly Disagree
( ) Disagree
( ) Neither Disagree nor Agree
( ) Agree
( ) Strongly Agree

14. Traumatic events have caused stress over the past 6 months.

( ) Strongly Disagree
( ) Disagree
( ) Neither Disagree nor Agree
( ) Agree
( ) Strongly Agree

15. Managing social life outside the job has caused stress over the past 6 months.

( ) Strongly Disagree
( ) Disagree
( ) Neither Disagree nor Agree
( ) Agree
( ) Strongly Agree

16. Occupation-related health issues have caused stress over the past 6 months.

( ) Strongly Disagree
( ) Disagree
( ) Neither Disagree nor Agree
( ) Agree
( ) Strongly Agree

17. Not finding time to stay in good physical condition has caused stress over the past 6 months.

( ) Strongly Disagree
( ) Disagree
( ) Neither Disagree nor Agree
( ) Agree
( ) Strongly Agree

18. Lack of understanding from family and friends has caused stress over the past 6 months.

( ) Strongly Disagree
( ) Disagree
( ) Neither Disagree nor Agree
( ) Agree
( ) Strongly Agree

19. Negative comments from public have caused stress over the past 6 months.

( ) Strongly Disagree
( ) Disagree
( ) Neither Disagree nor Agree
( ) Agree
( ) Strongly Agree

20. Feelings like you are always on the job have caused stress over the past 6 months.

( ) Strongly Disagree
( ) Disagree
( ) Neither Disagree nor Agree
( ) Agree
( ) Strongly Agree

Section 3: Work-related Burnout

Work burnout is a state of prolonged physical and psychological exhaustion, which is perceived as related to the person's work. Please use the following response scale to indicate the extent to which you agree with each statement regarding work-related burnout. Please choose the scale that is most closely applicable for each statement.

21. My work is emotionally exhausting.

( ) Strongly Disagree
( ) Disagree
( ) Neither Disagree nor Agree
( ) Agree
( ) Strongly Agree

22. I feel burnt out because of my work.

( ) Strongly Disagree
( ) Disagree
( ) Neither Disagree nor Agree
( ) Agree
( ) Strongly Agree

23. My work frustrates me.

( ) Strongly Disagree
( ) Disagree
( ) Neither Disagree nor Agree
( ) Agree
( ) Strongly Agree

24. I feel worn out at the end of the working day.

( ) Strongly Disagree
( ) Disagree
( ) Neither Disagree nor Agree
( ) Agree
( ) Strongly Agree

25. I am exhausted in the morning at the thought of another day at work.

( ) Strongly Disagree
( ) Disagree
( ) Neither Disagree nor Agree
( ) Agree
( ) Strongly Agree

26. I feel that every working hour is tiring for me.

( ) Strongly Disagree
( ) Disagree
( ) Neither Disagree nor Agree
( ) Agree
( ) Strongly Agree

27. I have enough energy for family and friends during leisure time.

( ) Strongly Disagree
( ) Disagree
( ) Neither Disagree nor Agree
( ) Agree
( ) Strongly Agree

Section 4: Job Satisfaction

Please use the following response scale to indicate the extent to which you agree with each statement regarding your job satisfaction. Please choose the scale that is most closely applicable for each statement.

28. I feel I am being paid a fair amount for the work I do.

( ) Strongly Disagree
( ) Disagree
( ) Neither Disagree nor Agree
( ) Agree
( ) Strongly Agree

29. My supervisor is quite competent in doing his/her job.

( ) Strongly Disagree
( ) Disagree
( ) Neither Disagree nor Agree
( ) Agree
( ) Strongly Agree

30. When I do a good job, I receive the recognition for it that I should receive.

( ) Strongly Disagree
( ) Disagree
( ) Neither Disagree nor Agree
( ) Agree
( ) Strongly Agree

31. I like the people I work with.

( ) Strongly Disagree
( ) Disagree
( ) Neither Disagree nor Agree
( ) Agree
( ) Strongly Agree

32. Communications seem good within this organization.

( ) Strongly Disagree
( ) Disagree
( ) Neither Disagree nor Agree
( ) Agree
( ) Strongly Agree

33. The benefits we receive are as good as most other organizations offer.

( ) Strongly Disagree
( ) Disagree
( ) Neither Disagree nor Agree
( ) Agree
( ) Strongly Agree

34. I like doing the things I do at work.

( ) Strongly Disagree
( ) Disagree
( ) Neither Disagree nor Agree
( ) Agree
( ) Strongly Agree

35. Many of our rules and procedures make doing a good job simple.

( ) Strongly Disagree
( ) Disagree
( ) Neither Disagree nor Agree
( ) Agree
( ) Strongly Agree

36. Those who do well on the job stand a fair chance of being promoted.

( ) Strongly Disagree
( ) Disagree
( ) Neither Disagree nor Agree
( ) Agree
( ) Strongly Agree

Section 5: Supervisor Support

Please use the following response scale to indicate the extent to which you agree with each statement regarding supervisor support in your organization. Please choose the scale that is most closely applicable for each statement.

37. My supervisor is concerned about the welfare of those under him or her.

( ) Strongly Disagree
( ) Disagree
( ) Neither Disagree nor Agree
( ) Agree
( ) Strongly Agree

38. My supervisor pays attention to what I am saying.

( ) Strongly Disagree
( ) Disagree
( ) Neither Disagree nor Agree
( ) Agree
( ) Strongly Agree

39. My supervisor is helpful in getting the job done.

( ) Strongly Disagree
( ) Disagree
( ) Neither Disagree nor Agree
( ) Agree
( ) Strongly Agree

40. My supervisor is successful in getting people to work together.

( ) Strongly Disagree
( ) Disagree
( ) Neither Disagree nor Agree
( ) Agree
( ) Strongly Agree

41. My supervisor gives me credit for things I do well.

( ) Strongly Disagree
( ) Disagree
( ) Neither Disagree nor Agree
( ) Agree
( ) Strongly Agree

42. My supervisor criticizes me for small things.

( ) Strongly Disagree
( ) Disagree
( ) Neither Disagree nor Agree
( ) Agree
( ) Strongly Agree

43. My supervisor backs me up if there is a problem.

( ) Strongly Disagree
( ) Disagree
( ) Neither Disagree nor Agree
( ) Agree
( ) Strongly Agree

Section 6: Demographic Information

44. Please provide the name of city you are working in.

( ) Istanbul
( ) Ankara
( ) Izmir
( ) Adana
( ) Van
( ) Diyarbakir
( ) Samsun

45. What is the highest degree you completed?

( ) High School
( ) Two Year College
( ) Bachelor of Arts/Science
( ) Master of Arts/Science
( ) Ph.D.

46. What is your rank?

( ) Police Officer
( ) Sergeant
( ) Lieutenant
( ) Captain
( ) Major
( ) Superintendent

47. How long have you been working in TNP?

( ) 5 years or less
( ) 6-10 years
( ) 11-15 years
( ) 16-20 years
( ) 21 years or more

48. What is your age?

( ) 25 years old or younger
( ) 26-30 years old
( ) 31-35 years old
( ) 36-40 years old
( ) 41 years old or older

49. What is your marital status?

( ) Married
( ) Single
( ) Divorced
( ) Widow

50. What is your gender?

( ) Male
( ) Female

51. What is your shift?

( ) 12-12
( ) 12-24
( ) 12-36
( ) 8-5 or 9-6
( ) Other (Please specify)

52. Please specify your current assigned unit?

( ) Operational Units (Anti-Terror, Intelligence, Public Order, Organized Crime)
( ) Nonoperational Units (Personnel, Education, Passport, Aviation, Logistics, IT)
( ) Police Station
( ) Anti-Riot
( ) Traffic
( ) Police Educational Units
( ) Other (Please specify)

APPENDIX D: TURKISH VERSION OF THE SURVEY INSTRUMENT

Bölüm 1: Organizasyonel (İşyeri Kaynakli) Stres

Aşağıdaki ifadeler polislerin meslek hayatına ait çeşitli durumları yansıtmaktadır. Son 6 aylık iş hayatınızı göz önüne aldığınızda, iş yerinizdeki stress ile ilgili ifadelere ne ölçüde katıldığınızı belirtiniz. Lütfen her ifade ile ilgili size en uygun olan şeçeneği işaretleyiniz.

1. İşyerindeki kuralların her çalışana aynı şekilde uygulanmaması bende stres oluşturur.

   ( ) Kesinlikle Katılmıyorum
   ( ) Katılmıyorum
   ( ) Kısmen Katılıyorum
   ( ) Katılıyorum
   ( ) Tamamen Katılıyorum

2. İdarı görevlerin çok fazla olması bende stres oluşturur.

   ( ) Kesinlikle Katılmıyorum
   ( ) Katılmıyorum
   ( ) Kısmen Katılıyorum
   ( ) Katılıyorum
   ( ) Tamamen Katılıyorum

3. Sürekli değişen mevzuat ve mevzuat uygulamalarındaki değişiklikler bende stres oluşturur.

   ( ) Kesinlikle Katılmıyorum
   ( ) Katılmıyorum
   ( ) Kısmen Katılıyorum
   ( ) Katılıyorum
   ( ) Tamamen Katılıyorum

4. Çalıştığım birimde yeterli personel olmayışı bende stres oluşturur.

   ( ) Kesinlikle Katılmıyorum
   ( ) Katılmıyorum
   ( ) Kısmen Katılıyorum
   ( ) Katılıyorum
   ( ) Tamamen Katılıyorum

5. Yaptığım görev ile ilgili bürokratik formaliteler bende stres oluşturur.

   ( ) Kesinlikle Katılmıyorum
   ( ) Katılmıyorum
   ( ) Kısmen Katılıyorum
   ( ) Katılıyorum
   ( ) Tamamen Katılıyorum

6. Mesai saatleri dışında kendimi çalışmak zorunda hissetmem bende stres oluşturur.

   ( ) Kesinlikle Katılmıyorum
   ( ) Katılmıyorum
   ( ) Kısmen Katılıyorum
   ( ) Katılıyorum
   ( ) Tamamen Katılıyorum

7. Yapılan görev ile ilgili kaynakların (ödenek, ekipman, vs.) eksikliği bende stres oluşturur.

   ( ) Kesinlikle Katılmıyorum
   ( ) Katılmıyorum
   ( ) Kısmen Katılıyorum
   ( ) Katılıyorum
   ( ) Tamamen Katılıyorum

8. İş yükünün adaletsiz şekilde dağılımı bende stres oluşturur.

   ( ) Kesinlikle Katılmıyorum
   ( ) Katılmıyorum
   ( ) Kısmen Katılıyorum
   ( ) Katılıyorum
   ( ) Tamamen Katılıyorum

9. Kurum içi soruşturmalar bende stres oluşturur.

   ( ) Kesinlikle Katılmıyorum
   ( ) Katılmıyorum
   ( ) Kısmen Katılıyorum
   ( ) Katılıyorum
   ( ) Tamamen Katılıyorum

10. Yapılan görevin gerektirdiği adli işlemler bende stres oluşturur.

    ( ) Kesinlikle Katılmıyorum
    ( ) Katılmıyorum
    ( ) Kısmen Katılıyorum
    ( ) Katılıyorum
    ( ) Tamamen Katılıyorum

Bölüm 2: Operasyonel (Yapılan Görev ile ilgili) Stres

Aşağıdaki ifadeler polislerin meslek hayatına ait çeşitli durumları yansıtmaktadır. Son 6 aylık iş hayatınızı göz önüne aldığınızda, yapmakta olduğunuz gorevden kaynaklanan strese ilişkin ifadelere ne ölçüde katıldığınızı belirtiniz. Lütfen her ifade ile ilgili size en uygun olan şeçeneği işaretleyiniz.

11. Mesai saatleri bende stres oluşturur.

( ) Kesinlikle Katılmıyorum
( ) Katılmıyorum
( ) Kısmen Katılıyorum
( ) Katılıyorum
( ) Tamamen Katılıyorum

12. Fazla mesai talepleri (Yönetimin mesai saatlerini uzatması) bende stres oluşturur.

( ) Kesinlikle Katılmıyorum
( ) Katılmıyorum
( ) Kısmen Katılıyorum
( ) Katılıyorum
( ) Tamamen Katılıyorum

13. Yapılan görev esnasında yaralanma riski bende stres oluşturur.

( ) Kesinlikle Katılmıyorum
( ) Katılmıyorum
( ) Kısmen Katılıyorum
( ) Katılıyorum
( ) Tamamen Katılıyorum

14. Görev esnasında şahit olunan travmatik olaylar (olüm, yaralanma, kaza, vs) bende stres oluşturur.

( ) Kesinlikle Katılmıyorum
( ) Katılmıyorum
( ) Kısmen Katılıyorum
( ) Katılıyorum
( ) Tamamen Katılıyorum

15. Görevin yoğunluğundan dolayı, ailem ve arkadaşlarıma yeterince vakit ayıramamak bende stres oluşturur.

( ) Kesinlikle Katılmıyorum
( ) Katılmıyorum
( ) Kısmen Katılıyorum
( ) Katılıyorum
( ) Tamamen Katılıyorum

16. İş kaynaklı sağlık problemleri (bel, bacak ağrısı, vs) bende stres oluşturur.

( ) Kesinlikle Katılmıyorum
( ) Katılmıyorum
( ) Kısmen Katılıyorum
( ) Katılıyorum
( ) Tamamen Katılıyorum

17. Görevin yoğunluğundan dolayı, dinlenmek ve sportif aktivitelere katılmak için yeterli zaman bulamamak bende stres oluşturur.

( ) Kesinlikle Katılmıyorum
( ) Katılmıyorum
( ) Kısmen Katılıyorum
( ) Katılıyorum
( ) Tamamen Katılıyorum

18. Ailem ve arkadaşlarımın çalışma şartlarımı ve iş yoğunluğumu anlamamaları bende stres oluşturur.

( ) Kesinlikle Katılmıyorum
( ) Katılmıyorum
( ) Kısmen Katılıyorum
( ) Katılıyorum
( ) Tamamen Katılıyorum

19. Halktan gelen olumsuz yorum ve değerlendirmeler bende stres oluşturur.

( ) Kesinlikle Katılmıyorum
( ) Katılmıyorum
( ) Kısmen Katılıyorum
( ) Katılıyorum
( ) Tamamen Katılıyorum

20. Kendimi sürekli görevli, çalışıyor gibi hissetmem bende stres oluşturur.

( ) Kesinlikle Katılmıyorum
( ) Katılmıyorum
( ) Kısmen Katılıyorum
( ) Katılıyorum
( ) Tamamen Katılıyorum

Bölüm 3: İş Kaynaklı Tükenmişlik

İş kaynaklı tükenmişlik, çalışanın işi ile ilgili algıladığı uzun süreli fiziksel ve psikolojik yorgunluk durumudur. Aşağıdaki ifadelere ne ölçüde katıldığınızı belirtiniz. Lütfen her ifade ile ilgili size en uygun olan şeçeneği işaretleyiniz.

21. Yaptığım iş duygusal anlamda beni yorar.

( ) Kesinlikle Katılmıyorum
( ) Katılmıyorum
( ) Kısmen Katılıyorum
( ) Katılıyorum
( ) Tamamen Katılıyorum

22. Yaptığım isten dolayı kendimi tükenmiş hissediyorum.

( ) Kesinlikle Katılmıyorum
( ) Katılmıyorum
( ) Kısmen Katılıyorum
( ) Katılıyorum
( ) Tamamen Katılıyorum

23. Yaptığım iş beni bunaltmaktadır.

( ) Kesinlikle Katılmıyorum
( ) Katılmıyorum
( ) Kısmen Katılıyorum
( ) Katılıyorum
( ) Tamamen Katılıyorum

24. Mesai sonunda kendimi bitkin hissediyorum.

( ) Kesinlikle Katılmıyorum
( ) Katılmıyorum
( ) Kısmen Katılıyorum
( ) Katılıyorum
( ) Tamamen Katılıyorum

25. Sabahları, yine bir işgünü daha düşüncesi ile, kendimi yorgun hissediyorum.

( ) Kesinlikle Katılmıyorum
( ) Katılmıyorum
( ) Kısmen Katılıyorum
( ) Katılıyorum
( ) Tamamen Katılıyorum

26. Her çalışma saatinin benim için ayrı bir yorgunluk kaynağı olduğuna inanıyorum.

( ) Kesinlikle Katılmıyorum
( ) Katılmıyorum
( ) Kısmen Katılıyorum
( ) Katılıyorum
( ) Tamamen Katılıyorum

27. Mesai sonrası, ailem ve arkadaşlarıma zaman ayıramayacak kadar kendimi yorgun hissediyorum.

( ) Kesinlikle Katılmıyorum
( ) Katılmıyorum
( ) Kısmen Katılıyorum
( ) Katılıyorum
( ) Tamamen Katılıyorum

Bölüm 4: İş Memnuniyeti

İş memnuniyeti ile ilgili aşağıdaki ifadelere ne ölçüde katıldığınızı belirtiniz. Lütfen her ifade ile ilgili size en uygun olan şeçeneği işaretleyiniz.

28. Yaptığım iş karşılığında iyi bir ücret aldığımı düşünüyorum.

( ) Kesinlikle Katılmıyorum
( ) Katılmıyorum
( ) Kısmen Katılıyorum
( ) Katılıyorum
( ) Tamamen Katılıyorum

29. Emrinde çalıştığım amirim, yaptığımız işlerde yeterince iyidir.

( ) Kesinlikle Katılmıyorum
( ) Katılmıyorum
( ) Kısmen Katılıyorum
( ) Katılıyorum
( ) Tamamen Katılıyorum

30. Verilen bir işi iyi yaptığımda, bununla ilgili hak ettiğim takdiri görürüm.

( ) Kesinlikle Katılmıyorum
( ) Katılmıyorum
( ) Kısmen Katılıyorum
( ) Katılıyorum
( ) Tamamen Katılıyorum

31. Mesai arkadaşlarımı severim.

( ) Kesinlikle Katılmıyorum
( ) Katılmıyorum
( ) Kısmen Katılıyorum
( ) Katılıyorum
( ) Tamamen Katılıyorum

32. Çalıştığım işyerinde, kurum içi iletişimin iyi olduğunu düşünüyorum.

( ) Kesinlikle Katılmıyorum
( ) Katılmıyorum
( ) Kısmen Katılıyorum
( ) Katılıyorum
( ) Tamamen Katılıyorum

33. İşyerimde sunulan imkanların en az diğer kurumların sunduğu imkanlar kadar iyi olduğunu düşünüyorum.

( ) Kesinlikle Katılmıyorum
( ) Katılmıyorum
( ) Kısmen Katılıyorum
( ) Katılıyorum
( ) Tamamen Katılıyorum

34. İşyerimde bana verilen görevleri zevkle yaparım.

( ) Kesinlikle Katılmıyorum
( ) Katılmıyorum
( ) Kısmen Katılıyorum
( ) Katılıyorum
( ) Tamamen Katılıyorum

35. İş yerimdeki kural ve düzenlemeler, verilen görevleri daha iyi bir şekilde yapmamı sağlar.

( ) Kesinlikle Katılmıyorum
( ) Katılmıyorum
( ) Kısmen Katılıyorum
( ) Katılıyorum
( ) Tamamen Katılıyorum

36. Yaptıkları işlerde başarılı olanlar, işle ilgili daha iyi pozisyonlarda görevlendirilirler.

( ) Kesinlikle Katılmıyorum
( ) Katılmıyorum
( ) Kısmen Katılıyorum
( ) Katılıyorum
( ) Tamamen Katılıyorum

Bölüm 5: Yönetici Desteği

Çalıştığınız kurumdaki yönetici desteği ile ilgili aşağıda belirtilen ifadelere ne ölçüde katıldığınızı belirtiniz. Lütfen her ifade ile ilgili size en uygun olan şeçeneği işaretleyiniz.

37. Amirim, emrinde çalışanların işyerindeki huzur ve mutluluğu ile yakından ilgilidir.

( ) Kesinlikle Katılmıyorum
( ) Katılmıyorum
( ) Kısmen Katılıyorum
( ) Katılıyorum
( ) Tamamen Katılıyorum

38. Amirim, iş ile ilgili görüş ve düşüncelerimi dikkate alır.

( ) Kesinlikle Katılmıyorum
( ) Katılmıyorum
( ) Kısmen Katılıyorum
( ) Katılıyorum
( ) Tamamen Katılıyorum

39. Amirim, işlerin yapılmasına yardımcı olur.

( ) Kesinlikle Katılmıyorum
( ) Katılmıyorum
( ) Kısmen Katılıyorum
( ) Katılıyorum
( ) Tamamen Katılıyorum

40. Amirim, yapılan işlerin ekip çalışması ile yapılmasını sağlamak konusunda başarılıdır.

( ) Kesinlikle Katılmıyorum
( ) Katılmıyorum
( ) Kısmen Katılıyorum
( ) Katılıyorum
( ) Tamamen Katılıyorum

41. Amirim, yaptığım iyi işler için beni takdir eder.

( ) Kesinlikle Katılmıyorum
( ) Katılmıyorum
( ) Kısmen Katılıyorum
( ) Katılıyorum
( ) Tamamen Katılıyorum

42. Amirim, küçük şeyleri bile eleştirir.

( ) Kesinlikle Katılmıyorum
( ) Katılmıyorum
( ) Kısmen Katılıyorum
( ) Katılıyorum

( ) Tamamen Katılıyorum

43. Amirim, herhangi bir problem ile karşılaştığımda bana destek verir.

( ) Kesinlikle Katılmıyorum
( ) Katılmıyorum
( ) Kısmen Katılıyorum
( ) Katılıyorum
( ) Tamamen Katılıyorum

Bölüm 6: Kişisel Bilgiler

44. Lütfen çalışmakta olduğunuz şehri belirtiniz.

( ) Istanbul
( ) Ankara
( ) Izmir
( ) Adana
( ) Van
( ) Diyarbakır
( ) Samsun

45. Eğitim durumunuz?

( ) Lise High School
( ) Yüksek Okul
( ) Üniversite
( ) Yüksek Lisans
( ) Doktora

46. Rütbeniz?

( ) Polis Memuru
( ) Komiser Yardımcısı
( ) Komiser
( ) Başkomiser
( ) Emniyet Amiri
( ) Emniyet Müdürü

47. Ne kadar süredir Emniyet Teşkilatında çalışmaktasınız?

( ) 5 yıl ve daha az
( ) 6-10 yıl
( ) 11-15 yıl
( ) 16-20 yıl
( ) 21 yıl ve üzeri

48. Yaşınız?

( ) 25 yaş ve aşağısı
( ) 26-30 yaş
( ) 31-35 yaş
( ) 36-40 yaş
( ) 41 yaş ve üzeri

49. Medeni durumunuz?

( ) Evli
( ) Bekar
( ) Boşanmış
( ) Dul

50. Cinsiyetiniz?

( ) Erkek
( ) Bayan

51. Çalışma saatleriniz?

( ) 12-12
( ) 12-24
( ) 12-36
( ) 8-5 veya 9-6
( ) Diger (Lutfen belirtiniz)

52. Lütfen çalışmakta olduğunuz şehri belirtiniz.

( ) Operasyonel Birimler (Terör, Asayiş, İstihbarat, Kaçakçılık, Organize Suçlar, vb)
( ) Operasyonel Olmayan Birimler (Personel, Hukuk İşleri, Eğitim, Pasaport, Haberleşme, Lojistik, Bilgi İşlem, vb)
( ) Karakol
( ) Çevik Kuvvet
( ) Trafik
( ) Eğitim Kurumları
( ) Diğer (Lütfen belirtiniz)

APPENDIX E: TABLES

Table 26: Correlation Matrix for Organizational Stress and Control Variables

		Education	Rank	Tenure	Age	Gender	Shift
Favoritism	Correlation Coefficient	-0.037	0.016	0.048	0.051	-0.055	-0.042
	Sig. (2-tailed)	0.387	0.708	0.268	0.239	0.203	0.332
	N	538	538	538	538	538	538
Excessiveadminduty	Correlation Coefficient	-0.021	-0.063	0.033	0.04	**.096***	-0.075
	Sig. (2-tailed)	0.633	0.147	0.449	0.352	0.026	0.081
	N	538	538	538	538	538	538
Policychange	Correlation Coefficient	0.04	0.029	0.008	-0.018	-0.023	-0.083
	Sig. (2-tailed)	0.352	0.508	0.86	0.678	0.597	0.055
	N	538	538	538	538	538	538
Staffshortage	Correlation Coefficient	0.073	0.079	0.003	0.023	0.081	-0.036
	Sig. (2-tailed)	0.09	0.066	0.95	0.595	0.062	0.399
	N	538	538	538	538	538	538
Redtapes	Correlation Coefficient	0.043	0.021	-0.006	-0.008	0.016	-0.066
	Sig. (2-tailed)	0.321	0.624	0.887	0.854	0.705	0.129
	N	538	538	538	538	538	538
Feelingpressure	Correlation Coefficient	0.006	-0.016	0.003	0.024	0.07	-0.082
	Sig. (2-tailed)	0.895	0.704	0.952	0.58	0.104	0.057
	N	538	538	538	538	538	538
Lackofresources	Correlation Coefficient	-0.013	-0.01	0.041	0.012	0.035	-0.043
	Sig. (2-tailed)	0.763	0.825	0.346	0.784	0.424	0.322
	N	538	538	538	538	538	538
Unequalsharing	Correlation Coefficient	-0.004	-0.037	0.075	0.081	-0.011	0
	Sig. (2-tailed)	0.922	0.395	0.084	0.062	0.796	0.996
	N	538	538	538	538	538	538
Internalinvestigation	Correlation Coefficient	-0.001	-0.021	-0.029	-0.016	-0.032	-0.026
	Sig. (2-tailed)	0.989	0.619	0.499	0.719	0.461	0.555
	N	538	538	538	538	538	538
Dealingwithcourt	Correlation Coefficient	-0.079	-0.054	-0.013	-0.018	-0.038	0.015
	Sig. (2-tailed)	0.067	0.213	0.756	0.67	0.383	0.732
	N	538	538	538	538	538	538

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 27: Correlation Matrix for Operational Stress and Control Variables

		Education	Rank	Tenure	Age	Gender	Shift
Shiftwork	Correlation Coefficient	-0.057	-0.08	-0.049	-0.033	0.004	**.105***
	Sig. (2-tailed)	0.188	0.065	0.259	0.451	0.926	0.015
	N	538	538	538	538	538	538
Overtimedemands	Correlation Coefficient	**-.113****	**-.107***	0.046	**.102***	0.068	**.267****
	Sig. (2-tailed)	0.009	0.013	0.288	0.018	0.115	0
	N	538	538	538	538	538	538
Riskofinjured	Correlation Coefficient	-0.015	-0.021	-0.062	-0.072	0.03	-0.003
	Sig. (2-tailed)	0.723	0.62	0.149	0.097	0.485	0.936
	N	538	538	538	538	538	538
Traumaticevnts	Correlation Coefficient	-0.023	-0.026	-0.037	-0.015	0.065	0.026
	Sig. (2-tailed)	0.592	0.546	0.397	0.721	0.129	0.553
	N	538	538	538	538	538	538
Soclifemanagement	Correlation Coefficient	-0.024	-0.002	0.067	**.106***	0.026	**.195****
	Sig. (2-tailed)	0.58	0.96	0.121	0.014	0.551	0
	N	538	538	538	538	538	538
Healthproblems	Correlation Coefficient	**-.144****	**.136****	0.026	0.08	0.01	**.197****
	Sig. (2-tailed)	0.001	0.002	0.542	0.062	0.81	0
	N	538	538	538	538	538	538
Physicalfit	Correlation Coefficient	-0.074	-0.074	0.025	0.06	**.099***	**.195****
	Sig. (2-tailed)	0.084	0.087	0.57	0.167	0.021	0
	N	538	538	538	538	538	538
Lackofunderstanding	Correlation Coefficient	-0.061	-0.059	0.015	0.03	0	**.191****
	Sig. (2-tailed)	0.158	0.168	0.726	0.49	0.997	0
	N	538	538	538	538	538	538
Negativepubliccomment	Correlation Coefficient	**-.092***	**-.092***	0.01	0.064	-0.012	**.161****
	Sig. (2-tailed)	0.033	0.032	0.825	0.138	0.774	0
	N	538	538	538	538	538	538
Alwaysonjob	Correlation Coefficient	0	-0.019	-0.049	-0.026	0.04	**.182****
	Sig. (2-tailed)	0.998	0.665	0.259	0.55	0.359	0
	N	538	538	538	538	538	538

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 28: Correlation Matrix for Supervisor Support and Control Variables

		Education	Rank	Tenure	Age	Gender	Shift
Welfare	Correlation Coefficient	**.123****	**.240****	0.071	0.066	0.03	**-.109***
	Sig. (2-tailed)	0.004	0	0.099	0.125	0.48	0.011
	N	538	538	538	538	538	538
Payattention	Correlation Coefficient	0.068	**.205****	0.062	0.04	-0.008	-0.06
	Sig. (2-tailed)	0.113	0	0.151	0.353	0.845	0.165
	N	538	538	538	538	538	538
Getjobdone	Correlation Coefficient	**.122****	**.249****	0.04	0.035	0.027	-0.08
	Sig. (2-tailed)	0.005	0	0.356	0.415	0.529	0.065
	N	538	538	538	538	538	538
Worktogether	Correlation Coefficient	0.08	**.244****	0.035	0.04	0.006	**-.094***
	Sig. (2-tailed)	0.064	0	0.414	0.352	0.884	0.029
	N	538	538	538	538	538	538
Creditforwell	Correlation Coefficient	**.170****	**.264****	0.057	0.064	0	-0.075
	Sig. (2-tailed)	0	0	0.189	0.141	0.997	0.081
	N	538	538	538	538	538	538
Criticise	Correlation Coefficient	**.125****	**.168****	0.026	0.072	**.085***	0.014
	Sig. (2-tailed)	0.004	0	0.544	0.094	0.048	0.745
	N	538	538	538	538	538	538
Backup	Correlation Coefficient	**.149****	**.279****	0.029	0.044	-0.013	-0.029
	Sig. (2-tailed)	0.001	0	0.506	0.311	0.769	0.495
	N	538	538	538	538	538	538

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 29: Correlation Matrix for Job Satisfaction and Control Variables

		Education	Rank	Tenure	Age	Gender	Shift
Pay	Correlation Coefficient	**.092***	**.136****	0.069	0.062	0.029	0.014
	Sig. (2-tailed)	0.034	0.002	0.11	0.149	0.505	0.742
	N	538	538	538	538	538	538
Supervisor	Correlation Coefficient	**.241****	**.310****	-0.054	-0.062	0.013	-0.034
	Sig. (2-tailed)	0	0	0.215	0.149	0.767	0.433
	N	538	538	538	538	538	538
Contingentrewards	Correlation Coefficient	**.188****	**.247****	0.001	-0.017	-0.016	**-.089***
	Sig. (2-tailed)	0	0	0.975	0.693	0.72	0.039
	N	538	538	538	538	538	538
Coworkers	Correlation Coefficient	**.200****	**.261****	-0.037	-0.037	0.015	0.042
	Sig. (2-tailed)	0	0	0.386	0.387	0.722	0.327
	N	538	538	538	538	538	538
Communication	Correlation Coefficient	**.190****	**.314****	0.042	0.045	-0.009	0.002
	Sig. (2-tailed)	0	0	0.333	0.294	0.835	0.967
	N	538	538	538	538	538	538
Benefits	Correlation Coefficient	**.219****	**.270****	0.024	0.019	-0.016	**-.146****
	Sig. (2-tailed)	0	0	0.571	0.655	0.704	0.001
	N	538	538	538	538	538	538
Natureofwork	Correlation Coefficient	**.175****	**.216****	0.005	0.023	-0.008	**.085***
	Sig. (2-tailed)	0	0	0.903	0.601	0.861	0.049
	N	538	538	538	538	538	538
Operatingprocedures	Correlation Coefficient	**.204****	**.265****	0.04	0.058	0.002	0.018
	Sig. (2-tailed)	0	0	0.358	0.179	0.959	0.672
	N	538	538	538	538	538	538
Promotion	Correlation Coefficient	**.171****	**.235****	0.006	0.006	-0.027	-0.069
	Sig. (2-tailed)	0	0	0.898	0.886	0.535	0.109
	N	538	538	538	538	538	538

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 30: Correlation Matrix for Work-related Burnout and Control Variables

		Education	Rank	Tenure	Age	Gender	Shift
Emotionalexhaustion	Correlation Coefficient	0.031	0.058	0.002	-0.026	0.007	-0.081
	Sig. (2-tailed)	0.473	0.178	0.962	0.549	0.869	0.061
	N	538	538	538	538	538	538
Burnout	Correlation Coefficient	-0.083	**-.161****	-0.016	-0.043	0.03	0.019
	Sig. (2-tailed)	0.055	0	0.712	0.324	0.492	0.659
	N	538	538	538	538	538	538
Frustration	Correlation Coefficient	**-.098***	**-.151****	-0.008	-0.017	-0.032	-0.035
	Sig. (2-tailed)	0.023	0	0.851	0.693	0.464	0.411
	N	538	538	538	538	538	538
Wornout	Correlation Coefficient	-0.039	**-.104***	-0.062	-0.065	0.056	**.101***
	Sig. (2-tailed)	0.362	0.016	0.153	0.134	0.197	0.02
	N	538	538	538	538	538	538
Anotherday	Correlation Coefficient	-0.075	**-.142****	-0.034	-0.061	0.001	0.007
	Sig. (2-tailed)	0.083	0.001	0.432	0.161	0.974	0.864
	N	538	538	538	538	538	538
Tiringworkinghour	Correlation Coefficient	-0.069	**-.151****	-0.039	-0.049	0.012	**-.097***
	Sig. (2-tailed)	0.109	0	0.361	0.26	0.788	0.025
	N	538	538	538	538	538	538
Noenergy	Correlation Coefficient	-0.084	**-.182****	-0.006	-0.017	0.019	0.04
	Sig. (2-tailed)	0.052	0	0.883	0.69	0.653	0.357
	N	538	538	538	538	538	538

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 31: Correlation Matrix of Organizational Stress

		1	2	3	4	5	6	7	8	9	10
(1) Favoritism	Correlation Coefficient	1.000									
	Sig. (2-tailed)	.									
	N	538									
(2) Excessive adminduty	Correlation Coefficient	.328**	1.000								
	Sig. (2-tailed)	.000	.								
	N	538	538								
(3) Policy change	Correlation Coefficient	.212**	.334**	1.000							
	Sig. (2-tailed)	.000	.000	.							
	N	538	538	538							
(4) Staff shortage	Correlation Coefficient	.260**	.316**	.258**	1.000						
	Sig. (2-tailed)	.000	.000	.000	.						
	N	538	538	538	538						
(5) Redtapes	Correlation Coefficient	.254**	.320**	.304**	.357**	1.000					
	Sig. (2-tailed)	.000	.000	.000	.000	.					
	N	538	538	538	538	538					
(6) Feeling pressure	Correlation Coefficient	.319**	.409**	.265**	.326**	.446**	1.000				
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.				
	N	538	538	538	538	538	538				
(7) Lackof resources	Correlation Coefficient	.270**	.282**	.274**	.403**	.425**	.414**	1.000			
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.			
	N	538	538	538	538	538	538	538			
(8) Unequal sharing	Correlation Coefficient	.385**	.333**	.211**	.329**	.337**	.429**	.411**	1.000		
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.		
	N	538	538	538	538	538	538	538	538		
(9) Internal investigation	Correlation Coefficient	.196**	.311**	.282**	.259**	.260**	.253**	.264**	.285**	1.000	
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.	
	N	538	538	538	538	538	538	538	538	538	
(10) Dealing withcourt	Correlation Coefficient	.138**	.271**	.256**	.178**	.276**	.236**	.257**	.164**	.480**	1.000
	Sig. (2-tailed)	.001	.000	.000	.000	.000	.000	.000	.000	.000	.
	N	538	538	538	538	538	538	538	538	538	538

**. Correlation is significant at the 0.01 level (2-tailed).

Table 32: Correlation Matrix of Operational Stress

		1	2	3	4	5	6	7	8	9	10
(1) Shiftwork	Correlation Coefficient	1.000									
	Sig. (2-tailed)	.									
	N	538									
(2) Overtime demands	Correlation Coefficient	.318**	1.000								
	Sig. (2-tailed)	.000	.								
	N	538	538								
(3) Riskof injured	Correlation Coefficient	.511**	.180**	1.000							
	Sig. (2-tailed)	.000	.000	.							
	N	538	538	538							
(4) Traumatic events	Correlation Coefficient	.470**	.214**	.724**	1.000						
	Sig. (2-tailed)	.000	.000	.000	.						
	N	538	538	538	538						
(5) Sociallife management	Correlation Coefficient	.276**	.610**	.218**	.276**	1.000					
	Sig. (2-tailed)	.000	.000	.000	.000	.					
	N	538	538	538	538	538					
(6) Health problems	Correlation Coefficient	.281**	.504**	.315**	.340**	.581**	1.000				
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.				
	N	538	538	538	538	538	538				
(7) Physicalfit	Correlation Coefficient	.322**	.595**	.282**	.333**	.665**	.651**	1.000			
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.			
	N	538	538	538	538	538	538	538			
(8) Lackof understanding	Correlation Coefficient	.267**	.432**	.292**	.308**	.516**	.549**	.539**	1.000		
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.		
	N	538	538	538	538	538	538	538	538		
(9) Negative publcomment	Correlation Coefficient	.301**	.443**	.324**	.359**	.454**	.509**	.462**	.547**	1.000	
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.	
	N	538	538	538	538	538	538	538	538	538	
(10) Alwaysonjob	Correlation Coefficient	.311**	.547**	.272**	.318**	.573**	.564**	.595**	.555**	.512**	1.000
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.
	N	538	538	538	538	538	538	538	538	538	538

**. Correlation is significant at the 0.01 level (2-tailed).

Table 33: Correlation Matrix of Supervisor Support

		1	2	3	4	5	6	7
(1) Welfare	Correlation Coefficient	1.000						
	Sig. (2-tailed)	.						
	N	538						
(2) Payattention	Correlation Coefficient	.601**	1.000					
	Sig. (2-tailed)	.000	.					
	N	538	538					
(3) Getjobdone	Correlation Coefficient	.608**	.649**	1.000				
	Sig. (2-tailed)	.000	.000	.				
	N	538	538	538				
(4) Worktogether	Correlation Coefficient	.515**	.612**	.669**	1.000			
	Sig. (2-tailed)	.000	.000	.000	.			
	N	538	538	538	538			
(5) Creditforwell	Correlation Coefficient	.521**	.560**	.607**	.654**	1.000		
	Sig. (2-tailed)	.000	.000	.000	.000	.		
	N	538	538	538	538	538		
(6) Criticise	Correlation Coefficient	.316**	.309**	.343**	.395**	.412**	1.000	
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.	
	N	538	538	538	538	538	538	
(7) Backup	Correlation Coefficient	.521**	.575**	.617**	.604**	.628**	.395**	1.000
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.
	N	538	538	538	538	538	538	538

**. Correlation is significant at the 0.01 level (2-tailed).

Table 34: Correlation Matrix of Job Satisfaction

		1	2	3	4	5	6	7	8	9
(1) Pay	Correlation Coefficient	1.000								
	Sig. (2-tailed)	.								
	N	538								
(2) Supervisor	Correlation Coefficient	.298**	1.000							
	Sig. (2-tailed)	.000	.							
	N	538	538							
(3) Contingentrewards	Correlation Coefficient	.339**	.592**	1.000						
	Sig. (2-tailed)	.000	.000	.						
	N	538	538	538						
(4) Coworkers	Correlation Coefficient	.264**	.601**	.515**	1.000					
	Sig. (2-tailed)	.000	.000	.000	.					
	N	538	538	538	538					
(5) Communication	Correlation Coefficient	.271**	.472**	.499**	.610**	1.000				
	Sig. (2-tailed)	.000	.000	.000	.000	.				
	N	538	538	538	538	538				
(6) Benefits	Correlation Coefficient	.343**	.390**	.480**	.390**	.527**	1.000			
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.			
	N	538	538	538	538	538	538			
(7) Natureofwork	Correlation Coefficient	.274**	.529**	.462**	.743**	.618**	.400**	1.000		
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.		
	N	538	538	538	538	538	538	538		
(8) Operatingprocedures	Correlation Coefficient	.324**	.531**	.463**	.650**	.573**	.500**	.696**	1.000	
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.	
	N	538	538	538	538	538	538	538	538	
(9) Promotion	Correlation Coefficient	.226**	.445**	.487**	.436**	.483**	.498**	.462**	.496**	1.000
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.
	N	538	538	538	538	538	538	538	538	538

**. Correlation is significant at the 0.01 level (2-tailed).

Table 35: Correlation Matrix of Work-related Burnout

		1	2	3	4	5	6	7
(1) Emotionalexhaustion	Correlation Coefficient	1.000						
	Sig. (2-tailed)	.						
	N	538						
(2) Burnout	Correlation Coefficient	.390**	1.000					
	Sig. (2-tailed)	.000	.					
	N	538	538					
(3) Frustration	Correlation Coefficient	.355**	.708**	1.000				
	Sig. (2-tailed)	.000	.000	.				
	N	538	538	538				
(4) Wornout	Correlation Coefficient	.308**	.568**	.510**	1.000			
	Sig. (2-tailed)	.000	.000	.000	.			
	N	538	538	538	538			
(5) Anotherday	Correlation Coefficient	.322**	.603**	.633**	.549**	1.000		
	Sig. (2-tailed)	.000	.000	.000	.000	.		
	N	538	538	538	538	538		
(6) Tiringworkinghour	Correlation Coefficient	.332**	.626**	.679**	.495**	.721**	1.000	
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.	
	N	538	538	538	538	538	538	
(7) Noenergy	Correlation Coefficient	.271**	.568**	.532**	.551**	.594**	.562**	1.000
	Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.
	N	538	538	538	538	538	538	538

**. Correlation is significant at the 0.01 level (2-tailed).

APPENDIX F: FIGURES

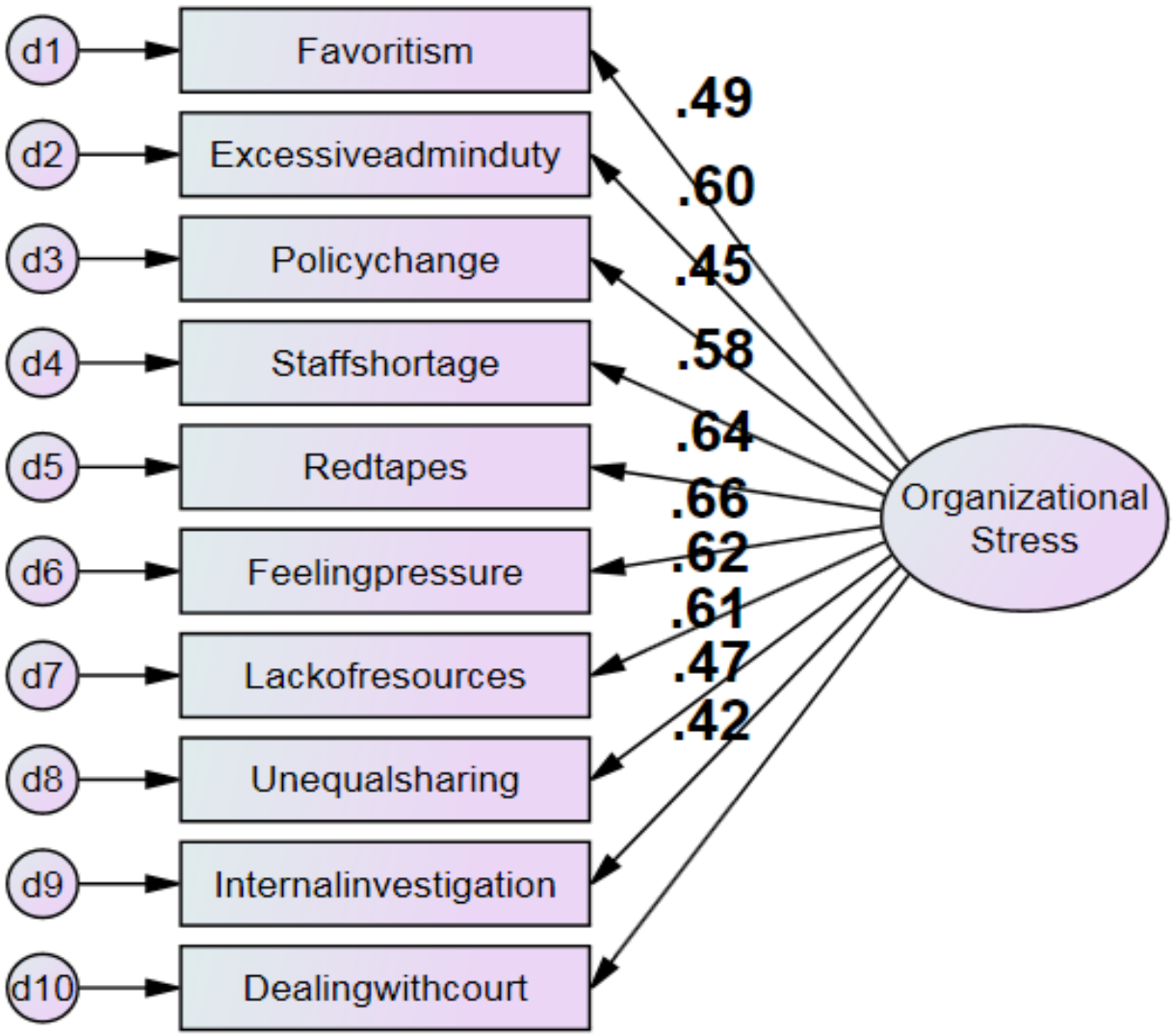

Figure 16: A Generic Measurement Model of Organizational Stress

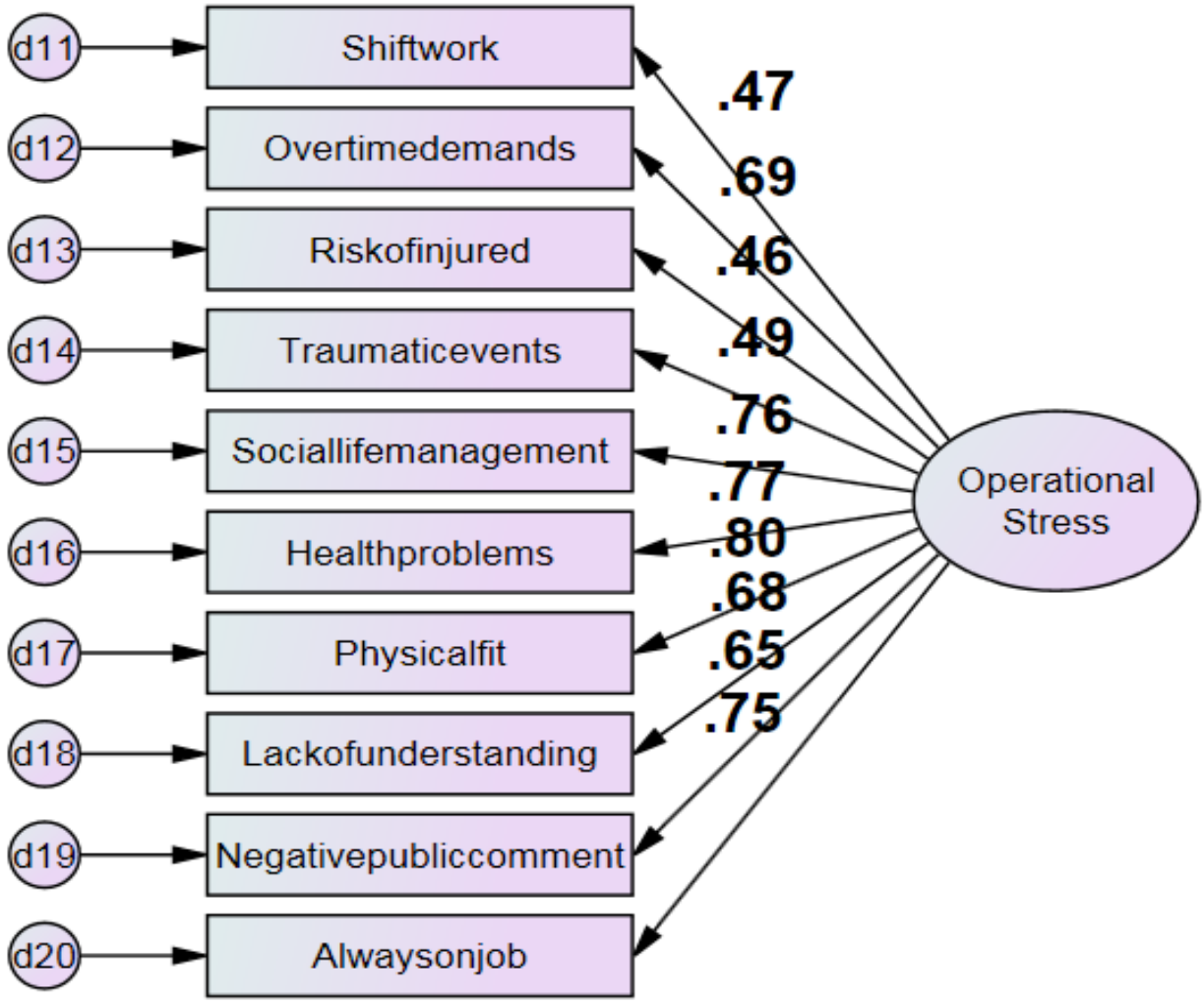

Figure 17: A Generic Measurement Model of Operational Stress

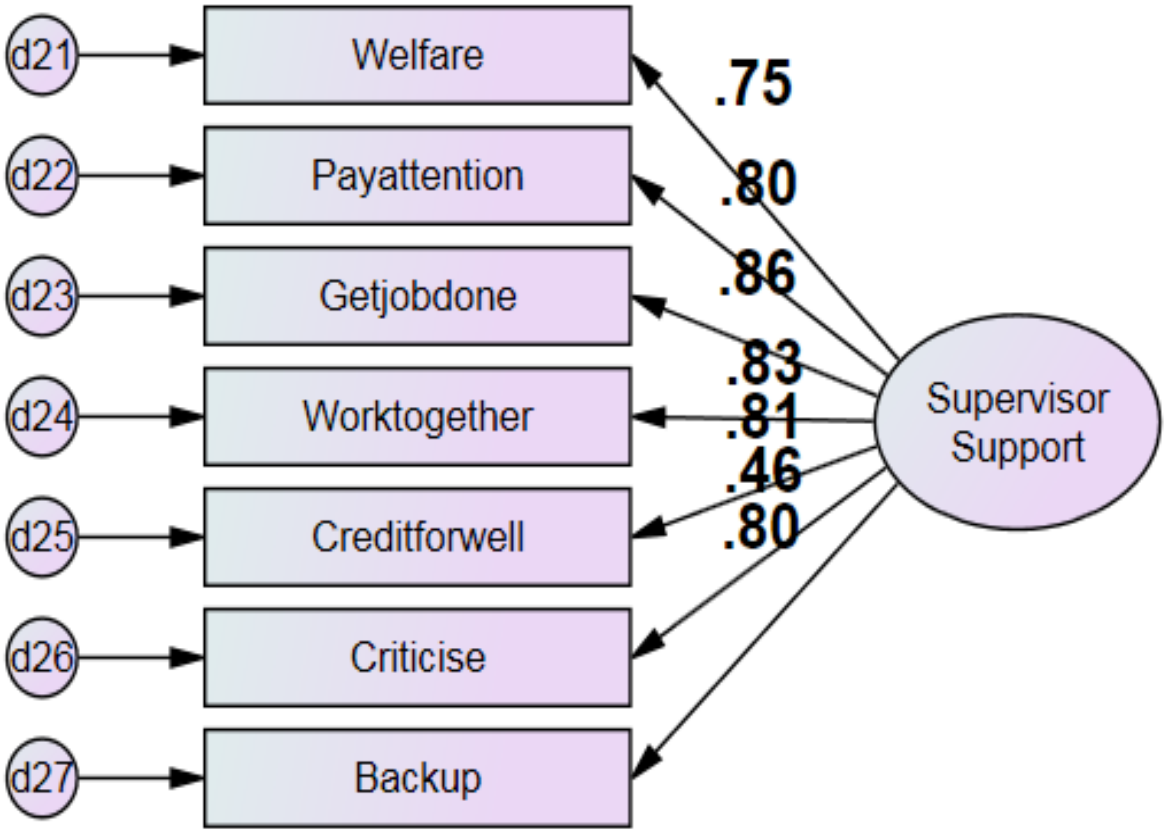

Figure 18: A Generic Measurement Model of Supervisor Support

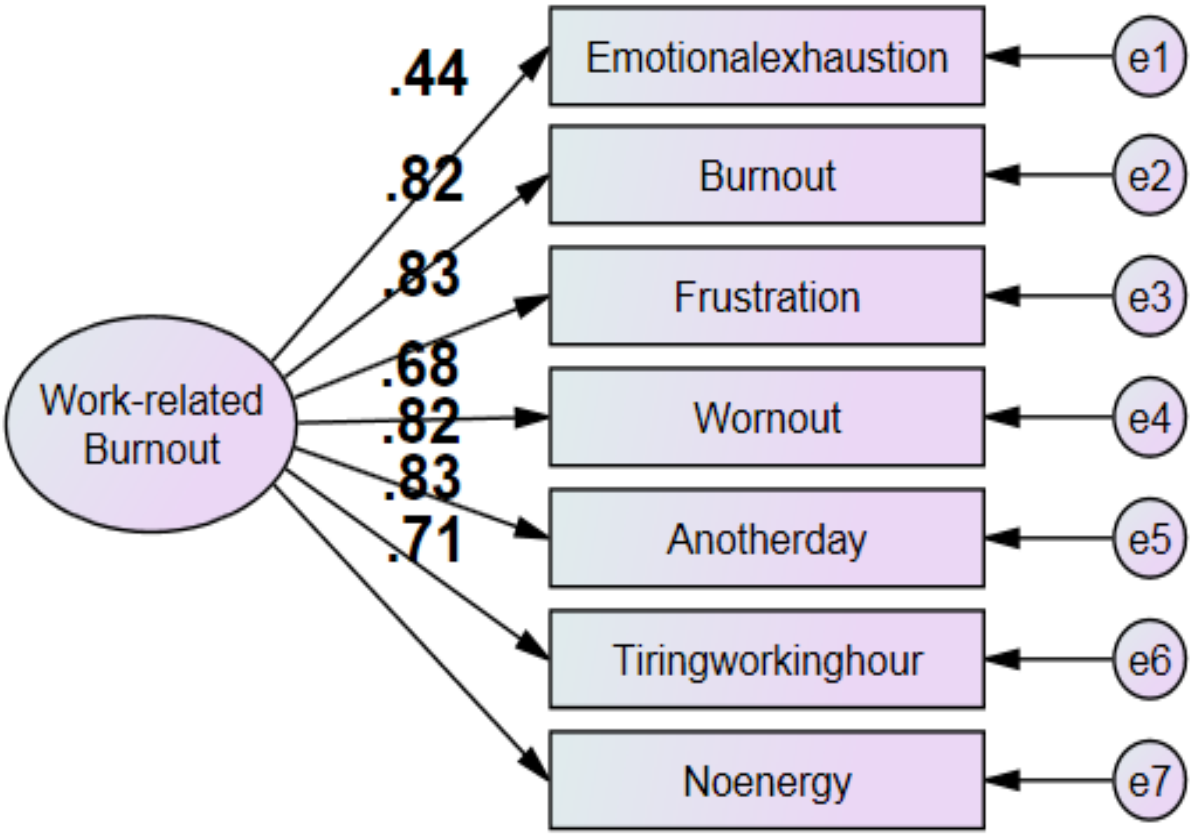

Figure 19: A Generic Measurement Model of Work-related Burnout

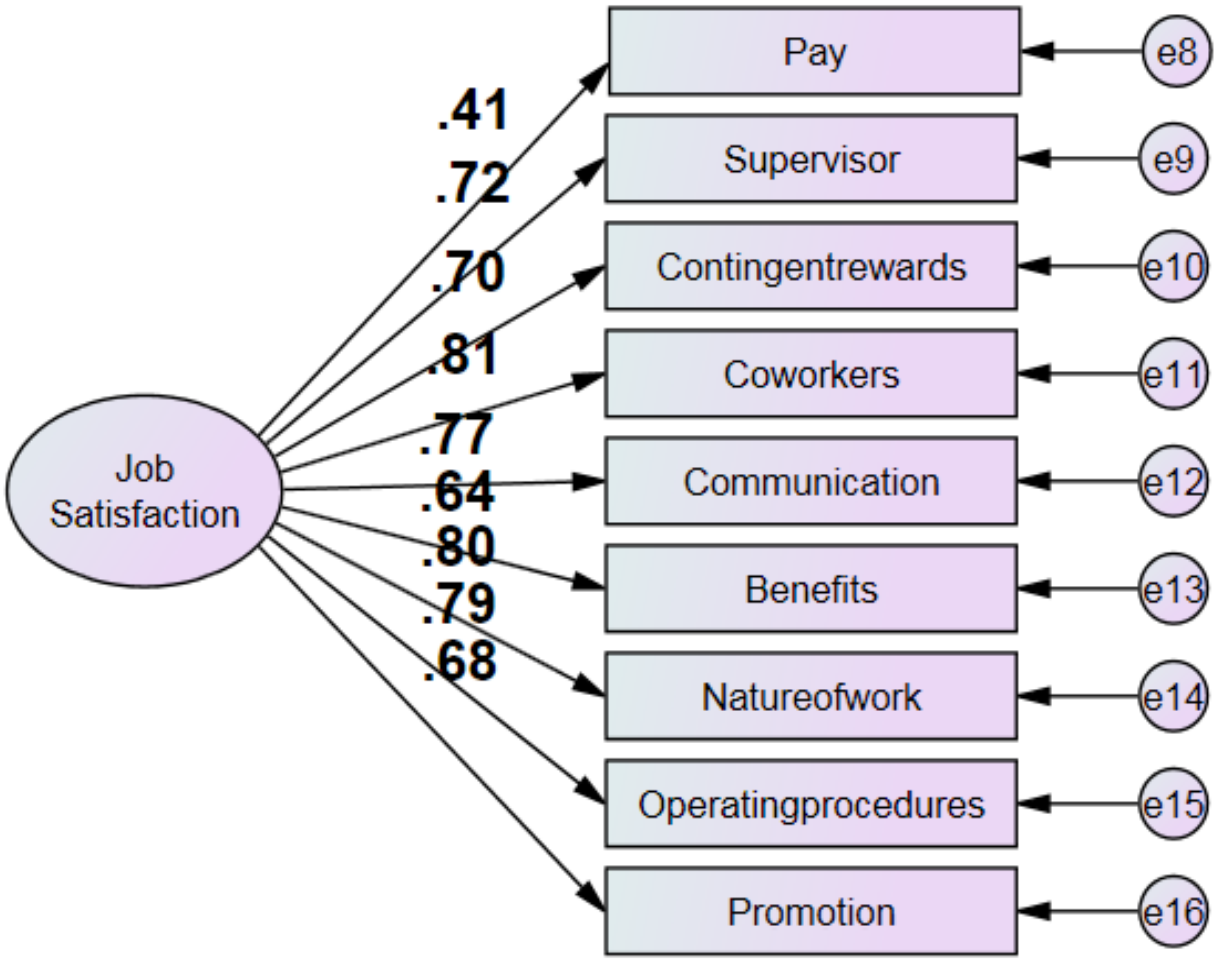

Figure 20: A Generic Measurement Model of Job Satisfaction

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